THE BASILICAS OF F.W. PETRE

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Francis William Petre

ABSTRACT

Francis William Petre is a major New Zealand architect whose work has never before been subject to a detailed study. For this reason a large part of this thesis has been devoted to the provision of an accurate account of his early life while the remainder deals with only one aspect of his architectural work, that of his basilican churches. These churches are particularly important because their design, construction and style are Petre's response to the unique problems faced by New Zealand colonial architects.

The main sources for this study were the buildings themselves and, where they exist, the architect's plans and specifications. Further important information was gathered from Petre's correspondence with his clients, and his contributions to the Tablet. Assistance in compiling the architect's biography was given by the Petre family.

The first chapter consists of an account of Petre's early life and education and a general outline of his architectural career. It is followed by a chapter concerned with Roman Catholic architecture in the nineteenth century to establish the international context of Petre's work.

The remaining three chapters deal with Petre's basilican designs in New Zealand. The style and planning of these buildings are discussed with regard to their suitability for particular congregations and Catholic liturgical practices.

Petre emerges as a most accomplished architect whose use of concrete and prefabricated components was most advanced. In particular his early realisation that concrete was the most suitable permanent material for New Zealand architecture is remarkable. His use of this material in such a refined and original building as the Cathedral of the Blessed Sacrament marks him as one of New Zealand's greatest Victorian architects.

ILLUSTRATIONS

Unless otherwise stated, all architectural works are by F.W. Petre. In the text the illustrations are referred to by bracketed references in the left hand margin.

13. St Paul's: South transept and dome, London. Architect: Sir Christopher Wren. Reproduced from Little, B. Sir Christopher Wren, Robert Hale & Co. London, 1975.

14. St Patrick's Basilica, South Dunedin, 1894. Exterior. Photograph: the author.

15. St Patrick's Basilica, South Dunedin, Interior. Photograph: the author.

16. St Patrick's Basilica, Oamaru. Exterior. Photograph: the author.

17. San Giorgio Maggiore, Venice, c 1570. Architect: Palladio. Photograph reproduced from Ackerman J.S. Palladio, Penguin Books, Hammondsworth, 1978.

18. St Patrick's Basilica, Oamaru. Interior. Photograph: the author.

19. The Basilica of the Sacred Heart, Wellington, 1901. Photograph reproduced from Fearley C.: Early Wellington Churches, Millwood Press, Wellington, 1977.

20. The Basilica of the Sacred Heart, Wellington. Photograph: the author.

21. The original design for St Joseph's Cathedral, Dunedin, 1879. Reproduced from a drawing in the collection of Mr A.J. Petre, Christchurch.

22. The original plan for the Cathedral of the Blessed Sacrament, Christchurch. In the Archives of the Christchurch Diocese, Building File, Box 1.

23. The Design for Wellington Cathedral: Entrance Facade. Photograph reproduced from: The Canterbury Times, 2 May 1900.

24. Westminster Cathedral, London, 1895. Architect: J.F. Bentley. Photograph reproduced from Dixon R. and Muthesius S.: Victorian Architecture, Thames & Hudson, London, 1978.

25. The Cathedral of the Blessed Sacrament, 1905. Exterior. Photograph in the collection of Mr A.J. Petre, Christchurch.

26. Notre Dame de Boulogne, 1897. Exterior. Architect: Mgr Haffreingue. Photograph reproduced from Notre Dame of Boulogne-sur-Mer Guidebook, Saep Edition.

27. The Cathedral of the Blessed Sacrament, 1905. Interior. Photograph in the collection of Mr A.J. Petre, Christchurch.

Note: Although I found plans for several of the churches discussed, these did not include full groundplans. The cost of preparing accurately-surveyed plans was prohibitive therefore I am including sketchplans for guidance only. None of the plans adhere to a correct scale.

CHAPTER I

FRANCIS WILLIAM PETRE : HIS LIFE AND WORK

Francis William Petre was born on September 26, 1847 in Lower Hutt, New Zealand, the second son of the Hon. Henry William Petre and his wife Eleanor Walmsley, founding settlers of the Port Nicholson colony. Although the family returned to the United Kingdom in 1856, when Frank was only nine years old, the experiences of his early years instilled in him a strong affinity for New Zealand to which he returned at the earliest opportunity.[1]

His strong feelings for New Zealand were undoubtedly supported by his family's close association with New Zealand's early colonial development. Frank's grandfather, the eleventh Baron Petre, was one of the early directors of The New Zealand Company.[2] His father was a close friend of Edward Gibbon Wakefield with whom he had served on the Earl of Durham's staff in Canada in 1837. The two then journeyed to New Zealand where they made several surveys before

1. A younger brother, Robert, also returned to New Zealand where he settled in Christchurch.

2. Ward L.E.: Early Wellington, Capper Press, Christchurch 1975, p. 9

returning to England to organise settlement under the auspices of the New Zealand Company. Henry returned to New Zealand in 1842 with his sixteen year old bride intending to settle permanently. Although Henry served as New Zealand's first Postmaster General and was a member of the Committee of the First Colony (Port Nicholson), most of his time was spent developing his two estates in the Hutt Valley - Herongate and Woburn Hall - where Frank grew up.[3]

Henry had hoped to found a family in New Zealand. However, the near destruction of Woburn Hall in the great earthquake of 1855 led to the family's return to the United Kingdom at the end of the year, where they settled in a little estate called "The Grove" in Cowes on the Isle of Wight. Although family records list the 1855 earthquake as the only factor in the decision to return, the fact that there is no evidence of Frank having had any formal education in New Zealand suggests that the lack of suitable education for children of the Catholic nobility may also have been of importance. After only three years in Cowes the family moved to the family seat in Ingatestone, Essex, where Henry served as Master of the Essex Stag Hounds to his brother, the twelfth Lord Petre. The remainder of

3. As a tribute to the Hon. Henry Petre's contribution to New Zealand's colonisation the European settlement at the mouth of the Wanganui River was originally named Petre. In 1847 this reverted to Wanganui to placate the indigenous Maoris.

Frank's youth was therefore spent in family homes on the Thorndon Estate (Bedfords and Springfield Lawn) or in London (Westbourne Terrace and Portland Place).

The close relationship with the extended Petre family which Frank experienced during his years in England was extremely important for his later development. From them Petre inherited an extremely strong Roman Catholic faith which was a major influence on his subsequent career. The family is one of the oldest Roman Catholic aristocratic families in England and had adhered to their faith throughout the long years of religious discrimination. Traditionally a devout family, their long history of religious piety seems to have been particularly strong during the nineteenth century, when it would have been stimulated by the 1829 emancipation.[4] The Petre family were major benefactors in the Roman Catholic building boom initiated by the emancipation, being listed as contributors to numerous churches and convents including Westminster Cathedral.[5] Henry had maintained the family tradition of patronage by sponsoring the passage of Fr. O'Reilly, one of the first Roman Catholic priests in New Zealand, and by

4. A number of the family, including the thirteenth Baron, Petre's cousin, entered religious orders. Petre's grandmother, Lady Petre, spent much of her time in a convent.

5. The extent of the family's contribution to Westminster Cathedral is commemorated by the Petre Chapel.

donating a large block of land to the church in Wellington.[6] Frank played a major role in the Church in Dunedin. He is listed as one of the elders of the Church who welcomed the Cardinal Archbishop Moran of Sydney to Dunedin in 1886 and his family is described as "one of the better remembered Catholic families in St Clair" in the centenary history of his parish.[7] Petre's decision to devote the major part of his working career to ecclesiastical architecture is an obvious manifestation of the family's religious devotion.

As mentioned earlier, Frank had no formal education in New Zealand but once in England the family followed the normal pattern for aristocratic Catholics. The Petre sons attended a boarding school, Mount St Mary's in Derbyshire, which was run by the Jesuits. Frank attended this school from 1857 until 1861 when it was decided he would enter the navy, a customary fate for junior members of the nobility. Frank entered the Naval College at Portsmouth in 1861 where he was enrolled as a naval cadet.[8] Apparently he did not like the navy at all as 1861 is also the year in which he began studies at Mgr Haffreingue's College at Boulogne-sur-mer in France. This school was estabilised by

6. The parish in which the donation was made was named Thorndon after the family's ancestral seat.

7. New Zealand Tablet, 19.2.1886, p.2

8. Wellesley-Colley Mrs Philip: The Life of the Hon. Henry W. Petre and Eleanor Walmsley, His Wife, printed privately 1907, p. 345

Mgr Haffreingue in 1816; it provided a traditional curriculum within a strong Roman Catholic framework. Although it still exists war damage destroyed all school records prior to 1940 so that the only evidence of Frank's progress is contained in a letter home from his younger brother, Edward, which states that "Frank is not going out of Mons Leroi's class until after Easter |because| he told me that he did not study very hard".[9] His education was completed with a two year course in Rhetoric at Ushaw College, Durham, a course designed as a substitute for university from which Catholics had been excluded.

In 1864 Frank went to London to begin training as an engineer and architect. This choice of career had no familial precedent and would appear to be a personal preference after he rejected his family's choice of naval service. As a younger member of a junior branch of an aristocratic family it was imperative that the young Petre should pursue an economically sustaining yet respectable profession and, according to John Summerson, "the architectural profession in the sixties was a gentleman's profession".[10] Unfortunately there is no recorded evidence of the reasons for Petre's interest in architecture. His daughter, Miss Margaret Petre, attributed this interest to

9. Undated letter in possession of Mr A.J. Petre, Christchurch

10. Summerson J: The London Building World of the Eighteen-Sixties, Thames and Hudson, London, 1973, p. 20

an earlier desire to be a sculptor, an ambition which is not mentioned elsewhere[11]. It seems most likely that the most significant factor in Petre's choice of architecture as a career was the example of his headmaster in Boulogne, Mgr Haffreingue, who designed and supervised the reconstruction of Notre Dame de Boulogne from 1827 to 1866[12]. This church was adjacent to the Bishop's Palace in which was housed Mgr Haffreingue's school and it is undoubtedly a major source for Petre's ecclesiastical architecture.

The firm to which Petre was articled in 1864 was Samuda Brothers, Millwall, London. It has been impossible to find any information about this firm apart from a business card introducing "Mr Joshua d'Aguila Samuda, celebrated ship-builder and engineer of London" and a letter of introduction from Redfern, Alexander & Co., London, to R.F. Pockley Esq., Sydney, which recommends Petre as having worked for Samuda Brothers "celebrated shipbuilder and engineer of London"[13]. Family tradition maintains that his five year period with Samuda Brothers involved three years of practical experience and two years

11. Certainly Petre had an appreciation of sculpture as is evidenced by his sculptural designs on the front balustrade of the Cathedral of the Blessed Sacrament and in the foyer of the present A.M.P. building in Cathedral Square, Christchurch. Petre's designs for church furnishings also have strong sculptural qualities.

12. Notre-Dame of Boulogne-sur-mer, guidebook, n.p.

13. Both in the possession of Mr A.J. Petre, Christchurch

training in office procedures and draughtsmanship. A reference by Petre to his experiences with concrete in the East India Dock walls between 1866 and 1867 is the only existing indication of the type of work with which he was involved in this period.[14]

Petre left Samuda Brothers in 1869 and joined what was reputedly a well-known architectural practice in Gray's Inn Road, London. This business is variously named as Corbett and Nicol, Cubitt and Nichol or Cubitt and Nichols but correspondence with the archivist of the Royal Institute of British Architects suggests that it "was probably the firm of Daniel Cubitt Nichols, who is sometimes listed as Daniel Nicholls ... and who was an associate of the R.I.B.A. from 1856-1874".[15] The Greater London Council's index to the Builder shows that D.C. Nichols was active in many fields of engineering and architecture such as urban and rural domestic work, warehouses and office buildings. According to an article on Petre published in the New Zealand Tablet in 1905 the firm was associated with two other businesses - the London Land Securities Company and the North London Sewage Company.[16] This means that

14. Petre to Bishop Grimes, 19.11.1900. Archives of the Christchurch Diocese, Building File, Box 1.

15. R.H. Kamen, Head of Library Information Services, R.I.B.A. to author 18.9.1981

16. New Zealand Tablet 16.2.1905 p.7. The article appears based on an interview with Petre

Petre was involved in one of the "four intercepting sewers ploughing across town from 1860 to 1870" which Summerson acknowledges as having provided an impetus to British heavy construction.[17] Petre's participation in this project was extremely important because of the experience he gained in concrete construction techniques. Jasper Draffin, in his 1943 monograph on concrete, claimed that the extensive use of concrete in the London Sewage Works stimulated British experimentation with concrete and helped establish it as a respectable material.[18] Petre's later preference for concrete and his mastery of the material reflects his London experiences as does his exclusive use of high quality Portland Cement, the material which Draffin sees as having established its reputation in the sewage works.[19]

It is immediately apparent that Petre's training, while it conformed to the usual pattern of articled pupilage was in no way a preparation for the architectural creativity to which he was to aspire in his own business in New Zealand. His work in Britain was of a straightforward nature with the emphasis being placed on constructional practicalities

17. Summerson J. The London Building World of the 1860's

18. Draffin J. A Brief History of Lime, Cement, Concrete and Reinforced Concrete, University of Illinois Bulletin, Chicago 1943, p. 23

19. Ibid

rather than decorative effects. There is no indication of his having had any experience in ecclesiastical architecture before his work in New Zealand. Therefore, while his commercial and domestic designs may well have been influenced by his period in the employment of Daniel Cubitt Nichols, his experiences of ecclesiastical architecture must be seen as observational rather than practical. In fact, as will be seen later, Petre's church designs were thoroughly personal inventions derived from three major sources: copy books; the surroundings in which he grew up and the observations of his extensive travels in Europe prior to his return to New Zealand.

Petre's fondness for books, which is remembered by his family, is supported by his founding membership of the Dunedin Atheneum and his lectures to the Dunedin Catholic Literary Society.[20] Miss Margaret Petre describes his personal library as extensive and, although no longer intact, it can be assumed that she is correct in her recollection of numerous texts on the works of Italian architects such as Palladio. She also remembers several regular journals, probably including The Building News but

20. The New Zealand Tablet 5.12.1892 p. 12 gives an example of one such lecture on the subject of "Archaeology As An Aid to the Historian".

this is impossible to substantiate. The limited range of his decorative motifs suggests some reliance on an architectural handbook such as Joseph Gwilt's An Encyclopedia of Architecture[21]. In view of Petre's quiet contemplative nature, his liking for books and his habit of lecturing his family on the architectural merits of well-known architects over dinner, it is reasonable to suppose that much of Petre's ecclesiastical architecture was derived from books.

The lessons learnt from textbooks were augmented by the noble surroundings in which Petre's youth was spent. While the houses in which his immediate family lived were modest mansions by noble standards, all were in close proximity to very grand buildings. The family's first home after they left New Zealand was in Cowes, on the Isle of Wight. This had been the home of John Nash, the great classicising architect of the late eighteenth and early nineteenth centuries and the young Petre would undoubtedly have been impressed by classical buildings such as the Isle of Wight Institution (1811) and the Town Hall (1814) in Newport.[22]

21. Gwilt J: An Encyclopedia of Architecture, Londman, Brown, Green and Longmans, London 1842 contains detailed references to all architectural styles used by Petre and there are similarities between Gwilt's descriptions and those given by Petre in his articles in The New Zealand Tablet.

22. The fact that Petre was impressed by Nash is substantiated by the close relationship between Petre's design for "The Cliffs", Dunedin, now known as Cargill's Castle, and Nash's Cronkhill, near Shropshire.

After 1859 Petre lived in the grounds of Thorndon
|1| Hall which had been completed in 1770 to the design of James Paine "the major architect of country houses before Adam", whose many patrons included other Roman Catholic noblemen such as Lord Arundell and the Duke of Norfolk.[23] Thorndon Hall followed the usual formula for eighteenth century English Palladian mansions with its "large rectangular central block with a regular temple front .. and wings culminating in end pavillions".[24] That Petre was impressed by Thorndon Hall is evidenced by the references to it in his basilicas in Oamaru, Dunedin and Wellington. The homes in which his family lived, Bedfords and Springfield Lawn, were substantial old houses with Tudor timbering, a motif which became a characteristic feature in Petre's own domestic work. Other major buildings on the Thorndon Estates included a Gothic
|2| chapel designed by Pugin and the original ancestral seat,
|3| Ingatestone Hall, completed in 1539.[25] While the extent to which Petre was influenced by Pugin's gothic style

23. Burke J: English Art 1714-1800 Oxford University Press, London 1976, p. 318

24. Ibid, p. 319

25. The chapel on the Thorndon Estates is attributed to A.W. Pugin by N. Pevsner in Essex Volume of The Buildings of England but correspondence with Mrs Phoebe Stanton suggests this is a work by E.W. Pugin. (Letter to the author 15.12.1981)

|4| is dubious; his first domestic commission, Chapman House, was heavily influenced by the stepped gables of Ingatestone House which Pevsner regards as one of the foremost brick mansions of the sixteenth century in Essex.[26]

As well as living in the environs of fine architectural works Petre was educated in impressive buildings: St Mary's Derbyshire, an ancient abbey refurbished by the Jesuits; Mgr Haffreingue's school in the ancient Bishop's Palace adjoining the site of the new cathedral of Boulogne and, Ushaw College, Durham, one of the old religious institutions in England with architecture as modern as contemporary Puginist works or as old as the Romanesque work dating from the eleventh century. Finally Petre's architectural training took place in London which was, during the nineteenth century, the site of an enormous upsurge in building activities and therefore would have provided a highly stimulating environment for a young architect.

26. Pevsner N., Essex, p 39
Following the destruction of Thorndon Hall by fire in 1877 Ingatestone Hall is once more the home of Lord Petre.

To these environmental influences must be added his travelling experiences. Miss Margaret Petre describes her father as widely travelled and lists Spain, France and Italy as countries he particularly liked. Although it is impossible to substantiate these journeys, Petre's architecture certainly suggests a knowledge of European, especially French, architecture while his position as Consular Agent for Italy in Dunedin is evidence of an association with that country which makes a journey there seem likely. It is also probable that he travelled widely in Britain, particularly in England and Ireland where his family had extensive social contacts. In addition his employment with D. Cubitt Nichols involved site supervision throughout the south of England. Many of the observations made during his journeys were recorded in paintings and sketchbooks which Miss Petre remembers in the family home.[27]

27. Unfortunately none of the sketchbooks exist today but a watercolour of the proposed church at Port Chalmers, in the possession of Mr W. Haydon, Dunedin, is an excellent example of his drawing ability.

Late in 1872 Petre left D. Cubitt Nichols to undertake a two year contract with John Brogden and Sons to supervise railway construction in the South Island of New Zealand. This date therefore marks the end of Petre's architectural training in terms of direct education and observation; once he left Britain only copybooks remained a source for him. In 1881 he firmly established himself in Dunedin by marrying Margaret Cargill, a grand-daughter of Captain Cargill, and beginning the family which eventually included 14 children. During his forty five years in Dunedin Petre worked extremely hard and, while he played a major part in the Catholic Church,he took no part in civic life, apart from being a founding member of the St Clair Golf Club. Well-respected in his profession he was an inaugural member and secretary of the Dunedin Institute of Civil Engineers and Architects in 1876. He was also a founding member of the New Zealand Institute of Architects and served as its second president from 1907 - 1908. Although his work involved extensive travel throughout New Zealand and at least one journey to Australia he never returned to England and remained in practice in Dunedin until his death on December 10, 1918.[28]

28. New Zealand Tablet, 9.2.1886, p. 14, notes that F.W. Petre was in Melbourne with Fr Ginaty inspecting Magdalen Asylum.

ii Otago Daily Times, 13.12.1918, p.1, Death Notice.

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Petre never practised independently in London and there exists no evidence of Petre-designed buildings built by any of his employers anywhere in England. It is therefore convenient to consider his work in New Zealand as his total oeuvre. This can be divided into three stages: the initial period in the employment of John Brogden & Sons; the first phase of private practice, ended by a period of ill health in the 1890's and the second phase which continued until his death in 1918.

During his employment with Brogden & Sons Petre's work was dominated by engineering. Petre was the engineer in charge of the construction of the Dunedin to Clutha and Invercargill to Mataura Lines.[29] F.W. Furkert also suggests he supervised the Blenheim-Picton Railway, but this is not substantiated elsewhere.[30] His railway work involved the construction of lines, tunnels and bridges (frequently in concrete) as well as the provision of housing for railway workers. Major factors in the provision of railway housing then, as now, were speed of erection and economy of cost. To this end Petre is credited by his sons, with the pioneering of the American technique of balloon framing in these houses.[31] In actual fact Thomas

29. Noonan R.J. By Design, Government Printing Office, Wellington, 1975, p. 19

30. Furkert F.W.; Early New Zealand Engineers, A.H. & A.W. Reed, Wellington, 1953, p. 244

31. Letter to F.W. Furkert Esq., from W.R.J. Petre and B.F. Petre, dated 4.2.1949. In the possession of Mr A.J. Petre, Christchurch

Turnball used this technique in Wellington prior to Petre's arrival in New Zealand, however it seems likely that Petre's use of balloon framing was independent of Turnball and that he had acquired knowledge of the technique during his journey through the United States en route to New Zealand in 1872.

By 1875 railway construction in the South Island was largely complete and Petre left Brogden & Sons, although retained as a consultant, to open his own practice as a civil engineer and architect. The opening of his own business must indicate his decision not to return to England after the completion of his contract with Brogdens. Dunedin during the 1870's was an extremely affluent, rapidly growing city in which a large number of excellent architects were already in business. These architects included William Mason, R.A. Lawson and Maxwell Bury, therefore competition must have been intense. Petre's offices were always in Dunedin, first in Stewart St and later in Princes St.[32] The firm was always small; although it is possible to distinguish at least three hands on remaining plans it is likely that he employed no more than two assistants at a time; from 1905 until 1914

32. During the years in which he worked on The Basilica of the Sacred Heart he claimed a Wellington office. The address for this was the same as the basilica so it can hardly be counted as an additional office.

one of these was his son, W.R.J. Petre. F.W. Petre was the principal of the firm, all designs were originally by him only details and working notes were handled by employees. All accounts, business transactions and correspondence are in Petre's own handwriting; this lack of a secretary or book keeper must be regarded as the major factor in Petre's constant financial difficulties. Business officially ceased in 1918 when Petre died but there is little evidence of work during the war.

Petre's early period in private practice is remarkable for the range and amount of work carried out. During this time he designed a cathedral, churches, domestic buildings and warehouses, all of which were favourably received. This period also saw the production of his major engineering works, in particular the draining of the Henley Swamp in the late 1870's. After 1880 a lack of evidence suggests that his engineering work was almost solely confined to his positions as Technical Consultant to the Milburn Cement Company and Consultant Engineer to Brogdens.[33] In 1898 he prepared a plan for the protection of St Clair suburbs from flood damage but this was never executed because the chairman of the St Clair Domain Board was Petre's father-in-law and his approval of the plan provoked a public outcry.

33. The latter position brought him into prominence in the arbitration of the Deborah Bay Tunnel Dispute.

Petre was undoubtedly one of Dunedin's major architects in this period and was well patronised. His work seems to be fairly evenly divided between domestic, commercial and ecclesiastical buildings. Of his domestic work the most famous existing example is the monolithic concrete Chapman House completed in 1875 for Judge Chapman, a friend of the Hon. Henry Petre.[34] This is an unusual example as Petre's domestic work was generally less austere and more in keeping with that "sham Tudor which dominated English suburbia |from the mid-nineteenth century| until at least the Second World War".[35] Typical examples of Petre's Tudor style are |5| Pinner House of 1884 and 20 Cliffs Road of 1881 while the most interesting were the recently destroyed group of row houses built in Jones Street in 1884. These buildings were of monolithic concrete reinforced with iron rods. The exterior was finished with a plaster wash which enhanced the Tudor effect created by the wood trim on the gables. According to Galer, Petre was responsible for a large number of houses in St. Clair, a suburb developed on land previously owned by his father-in-law, E.B. Cargill.[36] In addition

34. Chapman House is called Castlamore by Lois Galer in her book More Houses and Homes, Allied Press Ltd., Dunedin 1981, p. 19

35. Jordan R. Furneaux: A Concise History of Western Architecture, Thames and Hudson, Norwich, 1979, p. 302

36. Galer L.: Op Cit., p. 42

newspaper tender notices indicate a range of clients elsewhere in Dunedin and the surrounding countryside.[37]

In the commercial field Petre was extremely active in the 1880's, during which time all his major commercial buildings were designed. These ranged from the factory/warehouse type, for example his premises for John Reid and Sons in Dunedin, to prestigious office buildings such as his two blocks for the Australian Mutual Provident Society in Dunedin and Christchurch. The latter was built on a commanding site in Cathedral Square in 1886, alongside another Petre design, the Fletcher Humphries Building; with a third building in adjacent Hereford St (the Gould Building) it is obvious that he was held in high regard in Christchurch as well as in Dunedin. Petre's commercial buildings adhered to the palazzo style popularised by Sir Charles Barry's Reform Club of 1837-41. Each building was designed within the strict canons of classical symmetry around a central motif on the street facing facade, floor divisions were clearly differentiated on the exterior, the ground floor usually being rusticated while upper floors bore columnar
|6| ornamentation. In the case of Phoenix House, Dunedin

37. For example, The Otago Daily Times 21.3.1878 contains a notice inserted by Petre for tenders to erect a house and stables for Charles Turnball at Berwick.

the formula has been strictly adhered to.[38] The building, which rests on a concrete foundation which rises to a height of three feet, has its internal floors clearly differentiated by a projecting cornice. The lower storey of the predominantly concrete building is sheathed in simple rusticated Oamaru stone with only the more delicate treatment of the window arches providing additional decoration. The upper storey has elaborate columnar decoration, with paired Ionic columns flanking the central arched window and standing at the corners of the facade while smaller Ionic pilasters separate the remaining windows. The whole composition is symmetrically arranged around the central projecting bay which is emphasised by carved vegetation above its ground storey window; its flanking columns in the upper storey and a carved scroll in the central bay of the roof balustrade. The resulting arrangement of arched windows and other classical forms is typical of Petre's commercial designs.

Petre acquired his reputation as one of New Zealand's major ecclesiastical architects early in his career. His first churches, St Mary's Star of the Sea in Port Chalmers (1877) and the combined chapel/school of St Patrick's in South Dunedin (1878) were modest structures, hardly grand enough to be regarded as

38. Now called Airport House

important architectural works. It was in fact his
|7| design for a convent for the Dunedin Dominican Sisters in 1877 which established Petre's place as a major architect.[39] The convent is a most extraordinary work for which there seems to be little precedent; its monolithic concrete structure was pioneering in world terms while the exterior with its modern interpretation of simplified gothic forms was entirely original. According to the sisters still in residence the building functioned so well as a girls' boarding school and convent that it is difficult to believe the architect was male! Major features of the interior are Petre's use of interior windows, skylights and glass floor panels to allow daylight into every room, and the fact that no two rooms or corridors are similar. Further commissions for Roman Catholic convents, schools, presbyteries and churches followed in rapid succession, the most important being the commission for St Joseph's Cathedral, Dunedin in 1879.[40]

39. Since writing this chapter I have heard that the son of the major contractor to work on this convent claims his father designed the whole convent and was responsible for the direction of the concrete work. The fact that Petre's claim to the design, as published in newspapers such as The Illustrated New Zealand Herald, 23.4.1878, p. 6 was unchallenged suggests the claim on behalf of Mr J. Small is unsubstantiated. However, I was unable to further research this controversy in the time remaining to me.

40. A major factor in obtaining this commission may have been the fact that Bishop Moran had been responsible for securing the conversion of Margaret Cargill, a member of one of Dunedin's major Protestant families, prior to her marriage to Petre. After this the Petres became close friends of the Bishop who baptised their children.

After 1890 the evidence indicates that Petre's output was overwhelmingly dominated by work for the church. Miss Margaret Petre says her father had to "slow down" because of a major illness in the early 1890's. Unfortunately she does not remember the nature of this illness but the history of the building of St Patrick's, Oamaru, notes that illness forced Petre to be replaced as supervising architect by a Mr McPhee.[41] His specialisation in church design may also have resulted from an inability to gain commissions for public buildings, possibly because of his catholicism, but it probably represents the response of a very devout Catholic architect to the Catholic building boom in New Zealand in the last quarter of the nineteenth century.[42] Whatever the reason, the last phase of Petre's working career is dominated by ecclesiastical architecture, produced solely for the Catholic Church and it is in this context that he is most remembered.

41. Pioneering Days of the Church in North Otago 1840-1900 New Zealand Tablet Company, Dunedin, 1970. n.p.

42. He was interested in gaining public commissions and did prepare an entry for the Parliament Buildings Competition. However, as Mr E. McCoy related, the accidental spilling of ink over his completed designs prevented his entry.

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While Petre's abilities as a church designer have earned him a reputation as one of New Zealand's finest ecclesiastical architects it is his technical abilities which make him one of his country's outstanding architects of the nineteenth century. The prominence of his classical designs have caused him to be most frequently classified as a classicist. However, his gothic designs are far more numerous and in reality his use of so many contrasting styles makes it most difficult to classify Petre on a stylistic basis. Nevertheless he was not an eclectic architect. While his use of all styles can occasionally be seen as unorthodox he never mixed styles within a particular building as became popular with some Victorian architects. In fact, not only did he strive for stylistic purity within a design but he also had a distinct vocabulary of styles for particular functions. Thus he used mock-Tudor solely for domestic work, Italianate and Renaissance palazzo for commercial buildings, Georgian in schools and institutions, Gothic for convents and a wide range of Gothic and Classic styles in churches. Petre's work in any of these styles was characterised by a delicacy and refinement in which stylistic detail was pared down to a pure simplified
|8| form. The Church of the Sacred Heart, North East Valley (1891) is a particularly good example of this aspect of Petre's work. This unsheathed concrete

building is notable for the geometric clarity of its silhouette. The gothic character of the building is established by its lancet windows and finely pointed arches in which the plasticity of concrete has been fully exploited, rather than in the host of ornamental detailing so frequently employed in Victorian Gothic architecture.

Technically Petre's work is excellent. His nickname, "Lord Concrete", suggests that he should be remembered only for his mastery of concrete.[43] While this is in fact the most remarkable of his construction techniques he was an accomplished designer with all the building materials available in nineteenth-century New Zealand. Many of his smaller churches, much of his domestic work and a number of smaller convents were designed in common weatherboard. These have largely disappeared, either through decay or beneath a thick, bland coating of stucco. However, the example of St Brigid's, Waitati (1895) demonstrates his usual empathy with his material and the purpose of the design. The simplicity of this design suited its situation and the means of its congregation while the delicacy of the architrave and the gothic detailing of its belfry endowed the whole structure with an air of religious dignity.

43. Stacpoole J: Colonial Architecture in New Zealand A.H. & A.W. Reed, Wellington, 1976, p. 146

Petre's earliest use of a permanent material was of Port Chalmers bluestone in St Mary Star of the Sea and St Joseph's Cathedral. Construction in both churches was in the usual nineteenth-century rubblestone method which he found disappointing in its cost and speed of construction. Neither church has been completed to his design and, although he used rubblestone again in a few Central Otago churches such as St Patrick's, Lawrence, and St Joseph's, Queenstown, generally Petre rejected this material in favour of brick, concrete and Oamaru stone used separately or together.

While Petre's extensive use of concrete is certainly innovatory he can not be called a pioneer in terms of introducing concrete construction to New Zealand. Concrete had already become the usual material for foundations and these were often extended slightly above ground level to form the lower stages of walls, for example in Samuel Farr's Normal School, Christchurch, which was completed in 1874. Petre invariably used concrete foundations and, in addition, made extensive use of poured concrete walling. The use of concrete in walls was not common in New Zealand before 1875 although there are several examples of its use. "J.C. Firth added a castellated concrete tower to his wooden house" in the early 1870's while John Campbell imported formwork for a concrete addition to his house, Logan Bank, as early as 1870.[44] Philip Herapath used

44. Ibid, p. 205

monolithic concrete for his congregational church of 1874 and Stacpoole also notes that

> "David Ross of Dunedin and his nephew, F.W. Burwell, had advertised their intention of applying for letters patent for 'The sole use, benefit and advantage in New Zealand of certain inventions and improvements in the construction of frame apparatus for the construction of works in concrete' in July 1870".[45]

Although this application lapsed it does indicate the use of concrete in Dunedin prior to Petre's arrival in 1872.[46] Obviously, then Petre's reputation as a pioneer of concrete construction does not derive from his introduction of the material to New Zealand.

Petre's use of concrete was more extensive than any other contemporary New Zealand architect and in fact he is one of the first architects in the modern world to use concrete as his habitual medium. The most innovatory aspect of Petre's use of concrete is in the extent to which he exploited the nature of the material for aesthetic effects, in this he was at variance with the usual nineteenth-century practice of disguising concrete. In adopting concrete as his basic material Petre not only

45. Ibid

46. Two further examples of concrete use in New Zealand prior to Petre are recorded in New Zealand Historic Places Trust, Historic Buildings of New Zealand: North Island, Cassell New Zealand, Wellington 1979. These are Goldies Brae, Wellington (1875-76) and W.H. Clayton's own home in Wellington (1875).

grasped the material's essential virtues of economy, speed of construction and resistance to fire, but he also seems to have been the first to appreciate its suitability for New Zealand where high labour costs and a shortage of good building materials other than timber were already becoming apparent.

The concrete used by Petre was based on the Portland cement mix used in the London Sewage Works where, as previously mentioned, the advantages of the material for large scale construction had finally achieved recognition in England.[47]

> "The satisfaction which it |Portland cement| gave there greatly increased its popularity to a marked degree and considerable quantities were exported."[48]

New Zealand was an early recipient of these exports until the foundation of the Milburn Company of which Petre was a consultant. Portland cement's superiority lay in the selection and proportioning of its constituents and in the inclusion of gypsum as a retardant. Petre demanded the highest standards of workmanship from his contractors. His specifications for the Cathedral of the Blessed Sacrament,

47. By coincidence the first Portland cement works in France had been established in Boulogne-sur-mer in 1857.

48. Draffin, op. cit., p. 20

Christchurch, are extremely detailed in their stipulations concerning the grade of Portland cement to be used and the pour tests to which each mix was to be subjected.

Unless using monolithic concrete Petre reinforced his concrete with hoop-iron and metal plates as is clearly stated in the specifications for the Cathedral of the Blessed Sacrament and illustrated in its plans. An even earlier example of his use of iron reinforcement was revealed when the Jones Street Row Houses were demolished. Although the iron rods embedded in its walls are much wider spaced than is customary today it is clear that Petre's use of reinforced concrete can be traced back as far as 1881 at least. Such a practice was definitely innovatory. Although Philip Brannon had patented his system of monolithic concrete reinforced by iron rods as early as 1871 and 1874, reinforced concrete was uncommon throughout the world until the last decade of the nineteenth century. Petre's use of reinforced concrete clearly places him within the context of international experimentation with the material.

Several buildings designed by Petre in the 1870's are solely of concrete, the most famous being Chapman House at the Dominican Priory, Dunedin. Unfortunately the plans for Chapman House have disappeared but those of the Dominican Priory give no indication of

reinforcement.[49] While this could be explained by the fact that these are the clients' plans which could be less technical than those of the contractor it seems unlikely that the walls (three feet thick at ground level) are reinforced as it was not common practice to reinforce monolithic concrete at this time.[50]

Petre's mastery of concrete techniques is clearly revealed in both Chapman House and the Dominican Priory. In both cases the formwork was a unique and original design unlike the Firth and Campbell experiments which appear to have been carried out with imported formwork of a mass-produced nature similar to "Tall's Patent Apparatus".[51] The walls of both buildings were poured in successive stages of around one metre, the formwork being moved between pourings. The reuse of formwork duplicated motifs and openings and it is this duplication of motif which provided the basis for the decorative articulation of both buildings. In Chapman House the repetition of the bay window introduces a generous bulge to an otherwise austere structure while the repetition of the gothic window motif in the Dominican Convent introduces a vertical thrust which counterbalances the horizontal values which would

49. These plans are in the Hocken Library, Dunedin.

50. These plans consist of elevations, floor plans and some details of furnishings but very few of the working drawings necessary for the completion of the building.

51. Collins P.: Concrete: the Vision of a New Architecture Faber & Faber, London 1959, p. 107

otherwise dominate the structure. The buildings exploit the plasticity of concrete in their decorative fenestration and boldly articulated aggressive skylines. Even that major deficiency of monolithic construction, the join created by the moving of formwork, has been exploited by the moulding of sharp cornices which differentiate between successive floors.

The Dominican Priory is the most outstanding of these buildings. At its completion in 1879, it was the largest concrete building in Australasia and its four floors place it within the ranks of the largest in the world. It stands like a forbidding fortress on the edge of central Dunedin, its harsh lines at present emphasised by its severe grey paint. Although one's first impression is of geometric precision and regularity closer observation reveals that not only is each facade quite different but that within each side subtle differences in fenestration and the juxtaposition of advancing or receding planes create a delicate variety, a familiar aspect of Petre's work. Above all the building impresses with its originality, for the Gothicism inherent in the building, while conforming to nineteenth-century ecclesiastical taste, is achieved through a simplification of form which is quite modern in its execution and anticipates the twentieth-century taste for repeated geometric forms.

Both Chapman House and the Dominican Priory are in unsheathed concrete being clad only with a thin plaster wash to disguise the irregularities of nineteenth-century concrete. This remained Petre's usual practice in domestic work where the addition of timber detailing created the allusion of Tudor timber and plasterwork, as in Pinner House for example. In all other buildings however, he no longer used unsheathed concrete after 1880, preferring to disguise the building's true nature beneath a cladding of brick or Oamaru stone. This change probably reflects the Victorian dislike for the appearance of concrete. As Peter Collins states

> "the new confidence in the structural strength of reinforced concrete was not accompanied by a similar faith in its aesthetic potentialities".[52]

Nineteenth-century concrete was coarse grained and tended to be mottled

> "with such sombre and variegated hues that not even the most radical fundamentalist could have seriously contended that it had any aesthetic appeal in its natural state".[53]

Petre's combination of concrete and exterior cladding was so successful that many have not been regarded as concrete buildings. The Oamaru stone ashlar work on the

52. Ibid, p. 49

53. Ibid

Cathedral of the Blessed Sacrament for example consists of blocks which vary between ten and fifteen centimetres in thickness, the remaining twenty to thirty centimetres of wall consists of reinforced concrete. It is in fact a concrete building for which the Oamaru stone veneer acted as the formwork. The stone blocks were mortared into position, braced with an external, temporary
|9| framework then filled with concrete and hoop iron. Once the concrete had hardened the external framework was removed leaving an extremely strong, fireproof wall in which the concrete and stone were integral components. Such structural integrity was extremely important considering

> "the late Victorian architect's apparent obsession with the morality of facing concrete with other materials since in accordance with Ruskinian doctrine, he must either justify his use of facing materials on ethical grounds or eschew concrete altogether".[54]

By bonding the concrete to its permanent formwork Petre created an aesthetically acceptable appearance which was not a duplicitous facade but an ethically correct structure.

54. Collins, op. cit. p. 49, referring to J. Ruskin's condemnation of "cast ornament and brick cladding in The Seven Lamps of Architecture, Everyman, London, 1880, pp 33-35

Finally, in this brief discussion of Petre's concrete techniques, mention should be made of two examples of his skill in concrete engineering. The foundations of both of his cathedrals presented enormous problems because of their inhospitable sites. St Joseph's, in Dunedin, is situated on a filled-in gully and it was necessary to sink concrete foundations thirteen metres to the bluestone reef below. The entire building is supported by eighty three concrete piers, between one and two metres in width, which meet to form heavy concrete arches eight feet below the ground surface. The construction of this platform, on which the church is built, cost £2000.[55] Christchurch Cathedral was built on an extremely wet site with a very high water table. In order to support the building Petre designed a concrete platform which is in fact one of the earliest examples of a floating foundation in New Zealand.[56]

The range and quality of Petre's work rank him as one of New Zealand's major Victorian architects. However much remains to be done to gain an accurate picture of his full architectural output. My intention in this study is to examine one major aspect of his work, that of ecclesiastical architecture.

55. The Christchurch Press, 15.2. 1886, p. 10

56. St Patrick's, South Dunedin, 1894, is also a permanent material building constructed on a floating foundation.

CHAPTER II

PETRE AND ROMAN CATHOLIC CHURCH BUILDING IN THE NINETEENTH CENTURY

> "All their achievements have been made within the framework of a colony designed to be centred on a Protestant Church. Those who came in the First Four Ships planned a Church of England colony, a little England beyond the seas. They did not actively oppose, but they did little to support the aspirations of those they called Roman Catholics."[1]

The Petre family crest bears the motto: "Nothing Without God" and Petre's work as a specialist in ecclesiastical architecture was a continuation of the family's long history of benevolence to the church. His early friendship with Dunedin's Bishop Moran and the consequent acquisition of a number of important commissions, especially St Joseph's Cathedral, meant that by 1886 F.W. Petre was firmly established as New Zealand's foremost Catholic architect. He is credited with having designed

1. The Beginnings - Catholic Centennial 1850-1950, Caxton Press, Christchurch 1950, p. 7

over seventy churches throughout the South Island. Although other Catholic architects were at work in the same period he appears to have been the unrivalled choice for all major churches in the area, a monopoly similar to that held by the Mahoney family in the Auckland region.[2]

In choosing to specialise in ecclesiastical architecture Petre was faced with problems in addition to those already found in practising architecture in the developing colony of New Zealand. Not only did he have to cope with the difficulties of designing for a new climate, the deficiencies of local materials and the unpredictable availability of imported goods but he had the additional problem of having to design within the precepts of the Roman Catholic Church according to conventions established in Britain in the early nineteenth century.

The civil emancipation of British Catholics in 1829 had precipitated a boom in church building which was exacerbated by the granting of an episcopal hierarchy in 1850. Previously Catholics "concealed the poor chapels they built ... by disguising them under the comely appearance of dissenting meeting houses"[3] but now their bishops encouraged

2. In Canterbury, for example, Mr Jacobsen designed a beautiful church in Southbridge in 1878 but he was not considered for the Cathedral of the Blessed Sacrament.

3. Wiseman NPS: The Religious and Social Position of Catholics in England. James Moore Publishers, London 1864, p. 9

them to erect "edifices great and noble in their design and execution".[4] In the first half of the century their major concern had been the rapid erection of suitable structures which, in the words of Bryan Little were "gaunt, bulky, unappealingly designed and cheaply built".[5] After 1850, however, a period of consolidation took place during which many early buildings were replaced by larger more imposing structures whose size and often ostentatious styles presented an aggressive challenge to the Established Church of England.

While exteriors were frequently designed with propaganda values in mind, interior design was closely guided by conventions drawn up by The Sacred Congregation of Rites.[6] The basic principle was that the High Altar should not be too remote from the nave, therefore the eastern limbs of these churches were short, containing little but the High Altar and a Sanctuary large enough to accommodate the priest and several attendants. Transverse screens were discouraged as were choir stalls between the altar and people which, it was suggested, should be skied up above the nave in a western gallery. Devotional chapels were to be included in church design and it was

4. Ibid, p. 15

5. Little B: Catholic Churches Since 1623, Robert Hale, London, 1966, p 125

6. Ibid, p. 130-131

suggested that the chief of these, usually those dedicated to Mary, Joseph or a cult of The Saviour such as the Sacred Heart, be situated on either side of the main altar. Adherence to these conventions produced remarkably similar plans in British Catholic Churches, irrespective of the style of architecture used by various designers. Catholic churches of the later nineteenth century followed uniform plans which consisted of a wide nave with very short transepts, containing the devotional chapels, flanking a curved sanctuary which contained the high altar. Confessionals and the font were usually accommodated in small rooms adjoining the entrance porch beneath the choir gallery.

In New Zealand church design as a whole proceeded in three stages. In the earliest days of settlement services were held in a variety of secular buildings, such as Christchurch's earliest Catholic meeting place in a hotel run by an Irish lady, or very simple buildings. These were replaced as soon as possible by larger, more permanent structures, for example the first building on the Barbadoes Street site in 1860.[7] As settlement consolidated most congregations sought to erect architecturally-designed,permanent structures. The planning of these buildings usually followed British precedents and Petre's churches, irrespective of size or style,

7. The Beginnings, Op. cit. pp 12-15. This "was a modest, floorless wooden structure, measuring 28ft x 18 |which| cost £75. Inside and out the mud was cheap and deep and plentiful"

conform to the convention established by the Sacred Congregation of Rites. His interiors are characterised by a curved sanctuary, three steps higher than the nave, flanked by an altar dedicated to Mary on the left with the second altar on the right dedicated to the church's patron saint.[8]

The designing of Catholic churches in New Zealand was further complicated by the poverty of the Catholic congregations. Catholic colonisation in New Zealand had not been encouraged so Catholic congregations were small and, with the notable early exception of the Petre family itself, Catholic immigrants were not wealthy.[9]

> "The first Catholic settlers were to be found among the shepherds and general hands on the large estates."[10]

The gold fields attracted large numbers of Irish later in the century and these immigrants rapidly increased Catholic populations on the West Coast and in Central Otago. In spite of such a low socio-economic basis

8. Since the decrees made by The Council of Vatican II, these altars have frequently been made the repository for the Blessed Sacrament when it is no longer held in the central high altar.

9. According to The Beginnings - Catholic Centennial 1850-1950, between 1850 and 1860 Catholics comprised only 4.08% of the total population of Canterbury.

10. Pioneering Days of the Church in North Otago 1840-1900, Op. cit. n.p.

for expansion the clergy were eager to undertake ambitious building programmes. In Oamaru, for example, the Irish population in 1870 was "too small to significantly observe St Patrick's Day" yet they had just completed an Oamaru stone church designed by the noted Dunedin architect, R.A. Lawson, and within 15 years would initiate the planning of an even more imposing edifice.[11] The incentive for such architectural extravagance was the equality of religion which existed in New Zealand law from the beginning of colonisation.

While it is true that the New Zealand Company encouraged colonisation on a religious basis which did not include Catholics they were not actively excluded and, once they arrived in New Zealand, Catholics held the same privileges of worship, education and employment as any member of the orthodox Protestant denominations. It is also a fact that although Provincial Governments gave rather more assistance to the particular denomination assigned to a colony, Anglicanism in Canterbury for example, some assistance was also given to the Catholic Church. Thus the Canterbury Provincial Council laid aside a site for the use of Catholics in 1868 and, although this site was inferior to that allocated to the Anglican Church, it was still a generous one comparable to that granted to other denominations such as the Baptists or the

11. MacDonald K.C.: Whitestone Country, The Otago Daily and Witness Newspapers Co Ltd., Dunedin 1962, pp 108-234

Presbyterians.[12] Further evidence of a lack of official religious discrimination in New Zealand was the lack of controversy over the assumption by Catholic Bishops of similar titles to those held by Anglican Bishops. Catholics were therefore eager to express their equality of status in material terms and undertook huge financial committments to erect buildings comparable to those built by their wealthy Anglican rivals.[13]

In designing churches Petre was confronted with major problems. While plans had to adhere to the conventions established by The Sacred Congregation of Rites his patrons also expected grandiose and imposing structures yet they provided only meagre budgets. As a Catholic himself, Petre was often subject to considerable pressure to design for the church free of charge, his employers resented paying his accounts and he was often placed in the invidious position of having to beg his clients for payment.[14] The sites provided for Catholic churches were

12. Canterbury Reserve Ordinance. Conveyance dated 11 August 1868. File 41, Deed 578, Archives of the Land Department, Christchurch.

13. An example of such a committment was Bishop Grimes' acceptance of Petre's estimate of £52,000 for a Cathedral to serve a Diocese which then contained only 11,000 catholics.

14. The Petre family in New Zealand was never wealthy which suggests that his charges were in no way excessive. Several stories relating to his difficulties in obtaining payment have been related by his family. When the Dominican Sisters found it difficult to pay they promised the young and childless Petre free education for any daughters he might have. He accepted this and subsequently produced seven daughters.

usually removed from the town centre and often in poorer suburbs yet Petre was expected to design a church which would command attention. It is a mark of his skill that he often succeeded - Timaru dominates that city's skyline; St Patrick's, Oamaru, is an imposing structure when seen from the main road; the spire of St Joseph's, Dunedin, would have dominated that city's skyline had it been built, while St Patrick's, Waimate, commands the entrance to the town with a silhouette which is visible for miles around.

However, although a nineteenth-century designer of Catholic Churches had to work within severe financial and liturgical constraints, it must be acknowledged that they had a far greater stylistic freedom than was available to architects in the Anglican Church. From 1841 Anglican architecture was dominated by the Ecclesiological Society with its strict code of architectural style and symbolism. After the death of A.W. Pugin in 1852 no such authority existed in Catholic design, although his influence permeated the entire century and, in New Zealand, is particularly apparent in the ecclesiastical works of the Mahoney family in Auckland.

The strength of Pugin's espousal of Catholicism as the true form of English Christianity and his feeling that

"the building of Gothic churches |was| a religious necessity"[15] was such that most Catholic churches and all Cathedrals built in England between 1829 and 1852 were in the Gothic style. After his death, however, his influence waned as many architects realised that his version of Gothic was particularly unsuited to nineteenth-century Catholic practices. Pugin's deep chancels and rood screens, for example, inhibited the congregation's participation in the Mass. Although Gothic styles remained the most popular for Catholic churches in the second half of the nineteenth century Pugin's purity of ornament and workmanship was eschewed in favour of the more simplified Gothic ornamentation of churches designed in accordance with the needs of the Catholic liturgy. The second half of the century also saw a number of new styles used in Catholic churches, culminating in J.F. Bentley's Italo-Byzantine design for the premier British Catholic church, the Cathedral of Westminster, begun in 1895.

Petre's work in New Zealand is very typical of English Catholic architecture in the second half of the nineteenth century. He uses a basic plan consisting of a wide nave with a central curved sanctuary at the end opposite the entrance. The shallow sanctuary is flanked by two devotional chapels which are either in small niches

15. Hitchcock H.R.: Architecture in the Nineteenth and Twentieth Centuries Penguin Books, London, 1958, p. 97

or rudimentary transepts. Above the entrance is frequently sited a choir loft. This basic design was clad in a variety of styles: early English, French fourteenth-century, and other Gothic types, Renaissance, Palladian, Neo-classical and Italo-Byzantine polychromy. The fact that most of his churches are in some form of Gothic is also in accordance with English practices.

Petre's use of the Gothic mode is interesting. In England he must have been particularly susceptible to the influence of Pugin, whose architecture was a feature of Ushaw College, Durham, and at Oscott, where several of Petre's brothers were educated. The Petre family were patrons of A.W. Pugin, being listed as contributors to several of his churches. Furthermore, as already mentioned in Chapter 1, a Pugin-designed chapel had been built in the grounds of Thorndon Hall.[16] During Petre's years in the family seat this must have been his local church and it is inconceivable that he would not have observed it closely. Therefore his rejection of Puginist Gothic in favour of an original, simplified, treatment is significant. Only St Joseph's Cathedral, Dunedin, approaches Pugin's purity of workmanship and authenticity of design and it was never finished. Petre's son, F.W. Petre, described his father

16. See Chapter I, Note 24.

as a bitterly disappointed artist whose "dreams are uneconomic and his cathedrals and palaces are not required".[17] The son's view of his father as "a close disciple of A.W. Pugin" is inaccurate in that Petre never seemed to have believed that "Gothic was deemed to be the ecclesiastical style for the true Catholic church".[18] Petre's use of Gothic or classical style was as a decorative dress for his building rather than as an organic part of the structure which remains basically the same in all his designs. The most important Catholic followers of Pugin in nineteenth-century New Zealand were the Auckland-based Mahoney family whose ecclesiastical works reveal the greater intricacy of detail and irregularity of outline usually associated with Pugin. Petre's use of Gothic is quite different; his liking for classical symmetry, clean lines and sharply defined angles is always present, as is his tendency towards simplification. Thus his Sacred Heart Church in North East Valley (1891) achieves a strong Gothic flavour with a minimal amount of ornamentation. It is in the spirit of his earlier Dominican Convent and expresses Petre's individual Gothic tastes, barely influenced by Pugin but considerably affected by his own classical beliefs. Although Gothic was used by Petre for most of his churches, only two of his major works, St

17. "Genius Baffled" The Weekly News, 5.10.1958. p. 8

18. Dixon R. and Muthesius S.: Victorian Architecture Thames & Hudson, London, 1978, p. 184

Patrick's, Greymouth (completed in 1906 but designed in 1888) and St Joseph's, Dunedin (1886), are in that style; the remainder are in what has become known as his basilican style.

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Petre designed nine churches in the so-called basilican style of which one, Wellington Cathedral, was never built. With the exception of St Patrick's, Waimate, they are all major parish churches including one cathedral, the Blessed Sacrament in Christchurch. John Stacpoole describes these churches as "extraordinary"[19] and hardly within "the spirit of colonial architecture".[20] While they may appear foreign to New Zealand eyes so accustomed to colonial gothic, these churches are not at all extra-ordinary in the context of eighteenth and nineteenth-century Catholic architecture in either Europe or Great Britain. In the sense that they represent Petre's response to the New Zealand problems of material shortages, expensive labour and lack of finance the churches are well within the colonial spirit of devising an architecture suitable for a new environment.

19. Stacpoole, Op cit p. 205

20. Ibid p. 143

The basilica is the oldest large architectural form in Christianity. It had evolved from the "common Roman type of assembly hall used in administrative and other buildings"[21] which R. Bandinelli describes as

> "a type of building with an elongated ground plan and generally divided into three aisles or naves of which the central one is wider and often ends in an apse".[22]

Although ultimately of Greek origin the basilica was adopted by the Romans and became a common architectural form throughout Europe and the Near East. Its adoption by Christianity ensured its survival into medieval architecture. This survival encompassed several forms; in the East many variations occurred and

> "the domed church on a cruciform, cross-in-square, polygonal or polyfoil plan came increasingly to supplant the basilica".[23]

21. Krautheimer R.: Studies in Early Christian, Medieval and Renaissance Art, University of London Press, London, 1971. p.7

22. Bandinelli R.B. Rome - The Centre of Power, Thames & Hudson, London 1970, p. 422

23. Huyghe R. (editor) Larrousse Encyclopedia of Byzantine and Medieval Art, Paul Hamlyn, London 1963, p 31

In the west the basilica remained the basic plan for the great Gothic cathedrals. In Italy itself the influence of existing early Christian churches such as Sta Maria Maggiore or San Paulo fuori le Mure ensured the survival of a basilican style which closely adhered to Roman traditions. Because of this relationship the basilica is closely identified with Italian traditions in church building so that a building may be identified as basilican when, in reality, it is better described as classical, romanesque, byzantine etc. In classifying Petre's non-Gothic works as basilican such confusion is absolute. In floor plan they differ little from his Gothic works, in style they are wide ranging and several, St Mary's, Invercargill, in particular, adhere to no accepted definition of basilica.

In actual fact the use of the term 'basilica' to describe any of Petre's churches contravenes Catholic canon law which states that

> "no church can be honored with the title of a basilica except by apostolic grant or immemorial custom".[24]

Nevertheless Petre himself used the term to describe his non-Gothic churches, as did his clerical clients,

24. Bouscaren T.L., Ellis A. & Korth F.: Canon Law : A Text and Commentary, The Bruce Publishing Company, Milwaukee, 1966, p. 146.

including the highly educated Bishop Grimes of Christchurch.[25] Such usage is in accordance with the accepted nineteenth century meaning of the term. The Cambridge Camden Society tended to classify all non-Gothic churches as basilicas, a trend followed in New Zealand, and this usage is responsible for the generalised definition of basilica now commonly accepted.

Petre's interest in the basilican form is not at all surprising, considering his family's tradition of patronage in England and Ireland and his own travelling experiences in France and Italy. The simplicity of the style and its suitability for concrete construction must have appealed to him while his clerical patrons probably found the style's religious and philosophical associations most attractive. Petre's use of the basilican form can be seen as part of a movement away from Gothic forms which took place in many Roman Catholic areas in the second half of the nineteenth century.

As early as 1843 the Ecclesiologist had derogatively referred to "the Roman Catholic form, the Basilica" in its article on Professor Charles Robert Cockerell's espousal of classical architecture.[26]

25. However it is highly unlikely that Petre would have described St Mary's, Invercargill, in its present form as a basilica.

26. White J. The Cambridge Movement, Cambridge University Press, Cambridge, 1979, p. 122, referring to the Ecclesiologist Volume III, p. 40

Although British church builders were under the domination of Pugin early in the century, by 1850 it was obvious that Gothic was being rejected by Catholics. This rejection represented not only a move towards a more liturgically appropriate form but also a manifestation of a significant development in Roman Catholic philosophy.[27] This was the question of the nature of English Roman Catholicism - whether it should emphasise its historic legality within Britain or the universality of Catholicism which transcends national boundaries. Immediately after the Emancipation emphasis was placed on Roman Catholicism's historic priority over the Anglican Church. In architecture this emphasis was expressed in the revival of Gothic architecture, regarded by Pugin as the true Christian form. By 1850 the major influences on nineteenth century Catholicism in England - Newman, Manning and Wiseman - were emphasising Catholicism's universality. This, the philosophy of Ultramontanism, was expressed in the assumption of Roman liturgy, Roman canonical dress and sermons stressing the historic power of Rome.

> "Rome must really govern, animate and
> inform things with its own spirit ...
> We don't want another dose of

27. Thiry P., Bennett R.M. and Kamphoefner H.L., Churches and Temples, Reinhold, New York, 1953, p. 14c. "It was in the Roman basilica that the liturgy of the Western Church reached its high point of development. This basilican liturgy has come down to us essentially unchanged."

> Anglicanism with Tridentine
> doctrine: we want to be sensibly and
> perceptively Roman"

said F.W. Faber.[28] The first three Archbishops of Westminster, (Wiseman, Manning and Vaughan) were all Ultramontanes and their influence was felt in a reaction to the Gothic Revival.

> "The adoption of Roman devotions and
> the use of Roman ceremonies demanded
> Roman architecture,"[29]

and when the time came for the building of the Cathedral of Westminster Cardinal Vaughan had no hesitation in stipulating the style of the old Byzantine basilicas, a style symbolic of the ultramontane victory in nineteenth-century English Catholicism, just as the Oratorian Fathers had been adamant in their stipulation of classical architecture for the Brompton Oratory begun in 1878.

The ultramontane debate was less intense in New Zealand because of the missionary nature of the early church and the fact that the majority of parishoners were of Irish origins. The church in Ireland placed great importance on its Roman connections so that

28. Holmes D.: More Roman than Rome, Burnes & Oates, London, 1978, p. 117

29. Ibid, p. 70

> "the Catholics, when they could afford an architect and a definite style, usually opted for a classical building".[30]

This not only emphasised the universality of Roman Catholicism but presented a strong challenge to

> "the plethora of First-Fruits Gothic Protestant Churches which covered Ireland like a rash".[31]

The Irish or Marist origins of the nineteenth-century clergy in New Zealand ensured the triumph of ultra-montanism and they must have been a strong influence in approving classical commissions.

Petre himself had been brought up under extreme ultramontane influences. His uncle, Lord Petre, was a close friend of Cardinal Manning, while his grandfather, the previous baron, had been a major benefactor of Irish church building in the first half of the century.[32] Two of Petre's schools, Ushaw College and Mgr Haffreingue's establishment in Boulogne, were both recognised as "heavily romanised".[33] Given Petre's fervent Roman Catholicism and his honorary position as Italian consul

30. de Breffny B. and Mott G.: The Churches and Abbeys of Ireland. Thames & Hudson, London, 1976, p. 148

31. Ibid, p 148

32. Holmes, Op. cit. p. 170

33. Ibid, p. 190.

in New Zealand it is probable that Petre was a committed ultramontane and as such would have been strongly attracted to the basilican style.

In his work for the Roman Catholic Church Petre's major

> "problem was to find a style within the means of New Zealand congregations".[34]

His wide-spread use of concrete solved the problems of a lack of good building stone and a shortage of cheap labour but concrete was ethically and structurally unsuitable for Gothic churches. Concrete was first used as a building material by the Romans, therefore it was historically associated with basilica construction.[35] Petre's concrete techniques were highly mechanised and his poured concrete walls, faced with brick or Oamaru stone, could be erected extremely quickly as the four year period between the laying of Christchurch Cathedral's foundation stone and the building's consecration demonstrates.[36] In addition,

34. "Genius Baffled", The Weekly News, 5.10.1958, p. 8

35. Guedes P.: Architecture and Technological Change, The MacMillan Press Ltd., London, 1979, p. 253

36. Contract signed 10. 2.1901. Official opening 12.2.1905 compared with the Anglican Cathedral in the same city which was completed in 1904 after more than 26 years.

as Petre indicated in his letter to Edward O'Connor, secretary of the Christchurch Diocesan Building Fund, the method was far cheaper than any other masonry techniques yet it had an equal reputation for permanence and being fireproof.[37] Thus it can be seen that the basilican style was a logical choice for Petre, rather than an extraordinary phenomenon. It enabled him to combine the expediencies of economy and speed of erection with the historic aesthetics of a form which was extremely familiar to one who had been educated in France where, during the eighteenth and nineteenth centuries most new churches were based on basilican plans in a classical or neoclassical manner. Furthermore the style had been accepted by the influential Beaux-Arts movement as the preferred mode for ecclesiastical buildings. Such approval must also have been a major factor in Petre's appreciation of basilican designs.

37. Petre to E. O'Connor 9.3.1900. Archives of the Christchurch Diocese. Building File. Box No. 1. The comparative costs given by Petre are:

"Basilicas

St Patrick's, Oamaru, so far	£4,000
Sacred Heart, Wellington, so far	£8,000
St Patrick's, South Dunedin, so far	£5,300

Gothic

St Joseph's, Dunedin, so far	£22,000
First Church, Dunedin, so far	£18,000
Knox Church, Dunedin, so far	£16,000
Anglican Cathedral, Christchurch, so far	£34,000

CHAPTER III

THE EARLY BASILICAS

Petre's first experiment with the basilican type of church took place in his own parish of South Dunedin, then the most rapidly growing part of the Otago Diocese, which included St Kilda, the site of many of the architect's mock Tudor houses. Apart from the hills of St Kilda most of the suburb was made up of flat, poorly drained land which provided some of the cheapest housing in the city and therefore attracted large numbers of Irish immigrants. With so many Irish in the congregation it was almost inevitable that the parish was dedicated to St Patrick. In June 1873 Bishop Moran purchased one acre of land in Macandrew Road for church purposes and the first building on the site was the dual purpose school and chapel, also designed by Petre. This opened on August 18, 1878. As the parish's centennial history states

> "the school-chapel makes no claim to grandeur; it is not enriched with stained glass and marble".[1]

It is, in fact, a small weather-board gabled building with no ornamental detailing other than three superfluous buttresses along either side of the nave. Nevertheless

1. The Turn of the Tide - Centennial History of the Parish of South Dunedin. N.P.

the building served as the school-chapel well into the 1880's and, after the opening of the new church in 1894, it continued to be used by the parish school, in the ground of which it remains today. The small wooden structure was never envisaged as the permanent church and Petre was instructed to begin the planning of a more elaborate church in 1878.[2]

The earliest drawing for the new church appears |11| to date from 1879. Although only a hasty sketch this drawing is extremely important as it shows Petre was interested in classical churches early in his career, in the same years in which other Gothic works such as St Mary's, Star of the Sea; St Joseph's Cathedral and the Dominican Priory were under construction. It also shows that his interest in classical designs actually arose before the cost of St Joseph's had demonstrated that rubblestone Gothic was beyond the resources of most Catholic congregations. To a large extent the design can be seen as the work of an architect who enjoyed experimenting with different styles and who was to resist any absolute stylistic committment throughout his career.[3] Nevertheless, this

2. New Zealand Tablet 23.8.1878, p.11

3. None of the above Gothic designs were of a similar style. He described St Mary's, Star of the Sea, as Early English Gothic, the Dominican Priory as Saxon Gothic and St Joseph's as French Gothic.

initial classical design is also a response to three factors. Firstly there was the dominance of Irish parishioners who, as previously mentioned, preferred classic designs rather than Gothic.[4] Secondly there was the influence of Bishop Moran whose previous appointment had been in South Africa where basilicas were also the favoured Catholic architectural type.[5] Finally, the influence of the competition for the Church of the London Oratory, which had been decided in June 1878, had a strong effect on Petre as well as other Catholic architects in the English speaking world.

The London Oratory, frequently called the Brompton Oratory, was the head church for the Oratorian Order in Britain. The order was essentially an "urban apostolate of Preaching, Prayer and the Sacraments", which included among its early members John Henry Newman and Frederick William Faber who placed great emphasis on the order's Roman traditions and historic relationship with the Papacy, hence the prescribed Italian Renaissance style for the composition to replace J.J. Scole's temporary Gothic structure. As a result, reported the Builder in June 1878

> "most of the plans |in the competition|
> approach more or less to the simple

4. de Breffney and Mott, op. cit., p. 148

5. For example, the Catholic Cathedral in Johannesburg then under construction.

> basilica type - a long nave with apsidal termination ... The Inspiration of the designers seems drawn in great measure from either St Paul's, St Peter's or Santa Maria della Fiore. Domes as we need not say, abound".[6]

All the designs were described, and several plans
|12| were reproduced in The Building News from June to November 1878 and it is certain that these designs influenced Petre in most of his basilican designs.

St Patrick's, South Dunedin, was never envisaged as a major parish church. It was obvious, even in the nineteenth century, that it would serve a working class suburb and be overshadowed by St Joseph's Cathedral which would be the preferred church for major ceremonies.[7] Therefore its dimensions were modest - thirty point five metres by fifteen point two metres - and its decoration simple. Additionally, whereas Petre may have felt bound by the early nineteenth-century Gothic tradition when designing St Joseph's Cathedral, the relative unimportance of St Patrick's made it a more acceptable building in which to experiment with a new style. Thus, while

6. "The Brompton Oratory Chapel Competition", The Builder. Vol. 36. No. 1847, June 29, 1878, p. 65

7. It is interesting to note that Petre, although a practising member of St Patrick's parish, had his children baptised at St Joseph's Cathedral.

continuing to design within the liturgical constraints of his church, Petre was able to work with a new design and new construction materials. St Patrick's is the first church built by Petre which relies heavily on the architect's knowledge of modern building techniques. Because of its swampy site the building was erected on a pad of concrete, said to be one of the earliest floating foundations in New Zealand.[8] The walls are of reinforced concrete faced with Port Chalmers Bluestone, a significant development from the rubblestone walls of St Mary's Star of the Sea and St Joseph's. Inside, the ornate stone carving which is a feature of St Joseph's is largely replaced by moulded plasterwork and the ceiling, contrary to its appearance, is largely composed of prefabricated, mass-produced zinc panels, imported from Wunderlich and Co., Sydney. This use of mass-produced items and modern mechanised construction techniques such as were used in Petre's faced concrete process are features of Petre's architecture and are indicative of his ability to adapt traditional building styles to the needs and resources of his patrons and the materials available in colonial New Zealand. His mastery of modern construction was such that the Cathedral of the Blessed Sacrament, the culmination of this particular development, could be opened with its sculptural decoration fully completed within four years of the project's initiation.

8. Letter to F.W. Furkert Esq., from W.R.J. Petre and B.F. Petre, dated 4.2.1949. In the possession of Mr A.J. Petre, Christchurch

The sources influencing the design of St Patrick's remained with Petre throughout his series of basilicas. While not directly based on any one entry in the Brompton Oratory competition St Patrick's presents a scaled-down version of a number of entries, particularly those of Albert Vicar and John O'Neill, both of which have domes positioned above the crossing of the nave and small pedimented transepts. Petre's design consisted of a tall-gabled nave flanked by side aisles lit by large arched windows set beneath relieving arches. A convex portico of Doric columns on high pedestals protruded from the entrance (actually the eastern end) to shelter two large panelled doors. Above the entablature and balustrade of the portico the gable was terminated by a pedimented pavilion containing two arched windows. False transepts, marked by gables, formed a crossing surmounted by a steeply pitched dome on a severely elongated drum.

Although the domed basilican concept may be directly attributable to the Brompton Oratory Competition, most of the ornamental details used by Petre commonly occur in English classical architecture from the time of Inigo Jones. In particular the influence of England's major classical

|13| church, Christopher Wren's St Pauls, (1675-1711) can be detected, especially in the entrance facade of St Patrick's which echoes the south transept of St Paul's with its convex, columned portico flanked by pilasters and arched windows set beneath a pedimented second storey. The dome, with its elongated and columned drum also follows the precedent established by St Paul's and copied by many Neoclassical architects in Europe and America.

Designed to be built in stages, the nave, aisles, choir, sanctuary, vestries and transepts of the church were first consecrated on 6th October 1894, the remainder to be added once finances permitted. As with many of Petre's designs this never eventuated; the dome was never built and it hardly needs to be said that the recently added portico is not to the original design.
|14| Without Petre's portico and narthex the church presents a most severe exterior which is further emphasised by its present coating of grey-painted stucco which masks the original exterior of Port Chalmers bluestone and Oamaru stone. Nevertheless, in spite of Petre's use of Oamaru stone for the columns, relieving arches and other ornamental details the exterior was described as "studiously plain" at its consecration.[9] Obviously the copper dome resting on thirty-two cast-iron

9. The Otago Daily Times 30.10.1894, p. 4

Corinthian columns provided for in the plan would have elevated the building's external appearance. It was never added, so that Petre's characteristically brutal piers merely support a small octagonal cap surmounted by a cross. Petre's entrance facade, now obscured by a modern addition, was never seen as a permanent solution. At ground level it featured a triple arcade which would have marked the end of the nave and the entrance to the narthex. On the upper level the nave is abruptly terminated in a blank surface relieved only by a broad, flat arch with simple volutes, derived from those used by Renaissance architects such as Alberti's facade for linking the nave and aisles. The simple exterior with its sharp edges and contrasting geometric masses, particularly around the sanctuary area, has a Romanesque quality which, in spite of Petre's familiarity with such work, is probably unintentional.[10] The reduction of external ornament has also resulted in St Patrick's exterior having a close affinity with other early works, such as the Dominican Priory, which have similar clean lines and sharp angles.

|15| The interior remains substantially as designed by Petre, with the exception of the choir loft which should have been positioned above the proposed narthex

10. The correspondence between Petre and Bishop Grimes in the Christchurch Diocesan Archives contains numerous references to the works of this period.

but which is now sited in a wooden balcony extending over the last bay of the nave. The plan follows a very simple longitudinal basilican design with a wide nave flanked by aisles proceeding to the raised sanctuary at the end of the nave and the subsidiary altars, dedicated to the Virgin and St Patrick, which terminate the aisles. The nave is separated from the aisles by a Corinthian arcade which is echoed in the flat arcading which frames the arched windows along the outer walls. The central arcades support a bodly executed entablature from which rises the clerestorey.

The importance of the sanctuary is emphasised by the longitudinal lines of the naval arcades which lead the eye immediately to the archivolted triumphal arch separating the nave from the sanctuary. As was customary the sculptural ornamentation in the sanctuary is more extensive than that of the nave. The whole is dominated by a large painting of Mary, Queen of Heaven, adored by Sts Patrick and Teresa which is contained within a central sculpted arch. The walls surrounding this painting are divided into two stages; the lower of which contains fluted Corinthian pilasters supporting a bold Corinthian entablature with frieze and cornice. The upper stage is divided into decorative panels by fine plaster borders and light pilasters in a manner which is reminiscent of eighteenth century English domestic work as popularised by architects such as James Paine, William Chambers and Robert Adam.

The richness of the interior and its Renaissance associations are augmented by the ceilings which were described as "highly elaborate and artistic" in a contemporary newspaper report.[11] By varying the metal panels used Petre was able to create a richer effect in important areas such as the sanctuary. Zinc panels were commonly used in commercial and domestic buildings because they were considerably cheaper than the plasterwork they imitated. Petre's use of them in ecclesiastical architecture is apparently quite new.

Of all Petre's churches which have been described as Renaissance in style only the interiors of St Patrick's, South Dunedin and Sacred Heart, Wellington, could really qualify insofar as the dominating trait of their interiors, the arcades, was characteristic of Renaissance architecture. In this design it is apparent that the architect is grappling with a number of problems. Having resolved upon the basilica as a possible solution to the liturgical and financial needs of a Catholic congregation Petre had no clear idea of the best stylistic solution. His original exterior, with its bluestone and Oamaru stone polychromy so characteristic of Dunedin in the 1870's, gave no indication of the classically white interior within. The proposed dome would have sat awkwardly on top of such a plain building while the convex portico was at best an awkward

11. The Otago Daily Times, 30.10.1894, p. 5

addition which bore little relation to the rest of the exterior and offered no preparation for the interior disposition. The interior itself is certainly much more successful and Petre's ability to arrange a classical programme comes as a pleasant surprise. Nevertheless, it is flawed by a lack of fenestration in the sanctuary end which, with its north-western aspect, has left the interior very dark. Because the sanctuary is enclosed by the nun's chapel and sacristies it was only possible to include a small segmented window on either side of the altar. Petre had sought to overcome this by providing a atained glass fanlight in the base of the dome which would have flooded the sanctuary with light. Petre appreciated the symbolic value of light and usually sought to use natural light to highlight the altar, the rose window in the eastern end of St Joseph's Cathedral being a fine example of this. The effect was more difficult to achieve in a basilica and it became a major problem in Petre's designs finally culminating in the successful, if unorthodox solution of the Cathedral of the Blessed Sacrament. In spite of these deficiencies he created a practical design for Catholic needs, with the wide aisles facilitating access for communion and the elevated sanctuary providing the whole congregation with an unimpeded view of the Mass. It is significant that he adhered to this arrangement in future designs to the extent that similar proportions are used in most

subsequent churches.[12]

|16| Petre's second basilica, St Patrick's, Oamaru was commissioned in 1890 while the South Dunedin church was still under construction. Although its basic plan remains very similar to that of South Dunedin Petre has been more successful in many areas such as relating the exterior to the interior, coordinating the dome with the whole structure and providing a more homogeneous entrance portico. These improvements make it obvious that Petre himself was dissatisfied with the earlier design. It is also apparent that the Oamaru church, with its domed towers and central dome, was conceived of as a more important church in the Otago Diocese, one which served a large parish and, being so far removed from the cathedral, stood to uphold the glory of the Catholic Faith over a wide area.

In order to accommodate these needs Petre designed an imposing building which, from its elevated site in Reed Street commands a vista up Uln Street from Oamaru's main thoroughfare. It is a surprisingly

12. Petre's usual pattern was to divide the church length into four, one part comprising the sanctuary and three parts the nave. The width of the nave usually equals half the length of the church.

substantial church for the sleepy provincial town of 15,000 which is Oamaru today. However, Oamaru in the 1870's and 1880's was an extremely wealthy town, a major exporter of wheat, limestone and, after 1882, of frozen meat. In 1878 its population of 4,927 made it the ninth largest centre in New Zealand; Catholics comprised 14% of that population. They were chiefly of Irish origin but included a party of fifty five Italians whose immigration was assisted in 1876 to work on the railways and borough water race. The Catholics shared in the wealth of Oamaru, many having saved enough by the 1890's to participate in the land sharing which occurred after the election of the Liberal Party. Their increasing wealth and numbers is indicated by the steady improvement in Catholic churches.

In 1856 Father Seon, from the Canterbury Mission, recorded only sixty eight Catholics scattered between Waihola and the Waitaki River. On May 5, 1864 the first Mass in Oamaru was said in a private house by Fr Moreau from Dunedin and a church fund was opened. A rudimentary structure was quickly erected to be replaced by a more dignified, Oamaru stone Gothic church designed by R.A. Lawson. Designed to be built in stages, the nave was opened in 1868. It was never completed however, as the growth of the congregation was such that it was soon realised to be of inadequate size. In 1882 a combined church-school was begun to the design of James Johnston. This large, but simple building, was opened on Easter Sunday 1884 with 250 people receiving Mass. Never having

contemplated it as a permanent parish church, the Building Committee immediately began raising funds for a more imposing edifice to be designed by F.W. Petre. In 1892 Mr J.D. Woods' tender of £3,460 for the nave section was accepted and on Trinity Sunday 1893 the foundation stone was laid before a crowd of 4,000. Although this church was also built in stages - the nave was opened on November 18, 1894; the metal ceilings were fitted in 1898; the portico and flanking towers were added in 1903 and, finally, in 1918 the sanctuary and main dome were completed[13] - it was one of Petre's few churches to have been completed as designed.[14]

St Patrick's, Oamaru, has been regarded as the prototype for Christchurch Cathedral. This is true insofar as many of the problems encountered in South Dunedin have been overcome and, consequently, there are many similarities between the Oamaru and Christchurch basilicas. This is particularly so in the construction methods and materials. The bluestone which appeared so incongrous in South Dunedin has been replaced by ashlar blocks of local

13. Apart from the sanctuary and main dome, which were supervised by an Oamaru builder, Mr McPhee, Petre directly supervised each stage.

14. The only alterations have been the addition of a very sympathetic glass enclosure within Petre's columned narthex and the provision of modern furnishings to accommodate the liturgical changes subsequent to Vatican II.

limestone over reinforced concrete, the combination which was to be used so successfully in Christchurch. The pendentives and inner shells of the domes are also in reinforced concrete with an outer covering of Oamaru stone while the roofs of the nave and aisles are of Marseilles tiles. The outer veneer of white stone must have been extremely impressive and amply fulfilled a newspaper's prophecy that

> "the building, the foundation stone of which was laid last May, is now giving evidence of the noble structure it will be when completed .... this will be an edifice of no ordinary kind, and one having few equals in New Zealand".[15]

Such grandeur was deliberate because of Oamaru's important position in the Otago Diocese; and Petre's inclusion of three domes in the design, a combination used in only three of his churches, distinguishes this church from ordinary parish churches.[16]

In spite of the enthusiasm with which the building was greeted, St Patrick's is still tentative in design when compared to the Cathedral of the Blessed Sacrament,

15. Macdonald K.C., Whitestone Country. op. cit. p 234, referring to an article in the North Otago Daily Times

16. Oamaru's importance had been recognised by the elevation of Fr Colèman, the parish priest, to Archdeacon in 1882. In 1891 he received the title Monseigneur.

especially in their external elevations. While certain deficiencies inherent in the South Dunedin design have been overcome, the exterior of Oamaru reveals a continued inability to relate the basilican nave to a sympathetic entrance and, while the articulation of the dome is very similar to that of Christchurch Cathedral, it is nonetheless awkward. Basically St Patrick's, Oamaru, consists of a rectangular basilica; with a steeply pitched dome perched on a severely elongated drum above the crossing of the nave and small pedimented transepts; to which has been attached an impressive entrance portico. The articulation of the side walls is very different from that used in South Dunedin; it demonstrates Petre's continued search for an acceptable style with which to dress his basilica and the fact that this particular solution is not repeated probably indicates his dissatisfaction with a result which still appears uneasy today. In this case the walls of the clerestorey and flanking aisles are treated similarly with heavy pilasters separating the square windows, the roof lines being marked by decisive entablatures and cornices. The order used on these walls appears to be of Petre's invention. While its closest affinity is with the Tuscan order, the heavy uncarved capitals and the brutal simplicity of the columns themselves may owe some debt to the nineteenth-century interest in Egyptology. The windows themselves are most unusual, consisting of five rows of five octagonal panes separated by small diamonds, and are unprecedented in New Zealand. They appear to be

derived from early Christian churches such as St Sabina (c 423-430 A.D.) and St Maria Maggiore (c. 432-440) Rome, with which Petre was familiar.[17] Their use in association with a simple order may represent an attempt to achieve associations with the early Roman church and the origins of the basilican form.

Such associationism is weakened by the entrance portico and the central dome which introduce other historical references. The entrance facade provides the church's most impressive elevation. The nave is terminated by a plain wall pierced by three panelled doors at ground level and three clerestorey windows above. Attached to this is a severely accurate Corinthian columned portico. The fluted columns are of monumental proportions as they rise from high pedestals to support a pediment surmounted by a cross. While the prominence of the attic at the rear of the pediment threatens to reduce the impact of the portico, the monumentality of the whole has been increased by the two domed towers. That Petre had problems in providing his basilica with a satisfactory entrance is evidenced by the fact that his plan for the church shows the two towers as distinct components which are not fully integrated into the design. Petre was not alone in this,

17. This familiarity is demonstrated by his 1900 correspondence with Bishop Grimes in the Archives of the Catholic Diocese Building File, Box 1.

since, as James Ackerman has pointed out, "Facade design had bemused Italian architects since the Middle Ages", the problem being the need to combine an exterior facade which had to be aesthetically and symbolically pleasing with the functional requirements of a terminal wall.[18] In South Dunedin, Petre's original plan made no attempt to disguise the end of the nave or to relate the nave to the aisle walls and the convex portico, while it may have given the building pretentious dignity, bore no relation to either the exterior or interior. In his temporary entrance front at South Dunedin the architect used volutes, a Renaissance technique, to link the nave to the side aisles. In Oamaru he sought to integrate centre and sides with the columnar temple portico of antiquity; the solution which Palladio had perfected in the sixteenth century and which was copied in many western countries for centuries after. Palladio's solution relied on integrating centre and sides by sustaining the horizontal accents across the facade behind the columns and by combining a central columned portico with a shorter pediment in two halves over the
|17| aisles, for example San Giorgio Maggiore, Venice (1565). It is most unlikely that Petre modelled his temple front on any example of Palladio's, instead he would

18. Ackerman J.S.: Palladio, Penguin Books, Hammondsworth, 1978, pp 139-140

have derived his portico from examples provided by English Palladians, possibly even the secular use of the motif on Thorndon Hall. It is also likely that he was stimulated by local examples such as the temple front to David Ross's Bank of Otago in Oamaru (1870) or that of Forrester's and Lemon's Columba Church in Wansbeck Street, Oamaru, which opened in 1883. Apart from providing an impressive facade, Petre's temple front fails in most respects. While the wall at the rear of the portico gives a clear indication of the position of the aisles and clerestorey within, the flanking towers which stand apart from the nave bear no relation to the interior composition and the columns themselves are not in keeping with the proportions of the interior.

The towers have been derived from French classical architecture rather than antiquity, a source which is reflected in the neoclassical proportions of all three domes. The combination of a portico and flanking towers was a very traditional one and Petre's example is no more disconcerting than Bernini's towers on the Roman Pantheon or the more contemporary example of Benjamin Latrobe's Roman Catholic Cathedral in Baltimore (1804-1818).

The central dome rises from within an octagon of reinforced concrete which is clearly visible above the roof. The two small domes are supported by Corinthian columns while the major dome rests on a fenestrated drum decorated with Corinthian plasters. Oamaru was originally

designed with a dome similar to that of South Dunedin but this was refined by the final plans. The resulting steeply pitched dome on its fenestrated drum is closely related to the larger dome of the Cathedral of the Blessed Sacrament and can be similarly associated with Notre Dame de Boulogne, a major influence in the cathedral design, which will be discussed below.[19]

|18| While the exterior of St Patrick's, Oamaru, looks forward to the Cathedral in Christchurch the interior has much more in common with his South Dunedin design with which it shared a common liturgical function. Both churches therefore share the same floor plan and proportions. Nevertheless the interior at Oamaru is much more successful. This is partly because the Oamaru church, unlike its counterpart in Dunedin, was completed. The choir was accommodated in a loft beneath a barrel-vaulted attic above the narthex, while the sanctuary dome has been built to flood the altar area with light. To a large extent however Petre's success has been determined by the replacement of the heavy Renaissance arcades of South Dunedin with Corinthian colonnades which sweep across the rear and up the sides towards the altar. Not only is this colonnade aesthetically pleasing but the delicacy of the columns gives the

19. See Chapter Four, pp 107-109

interior a greater feeling of space. Furthermore, columns were characteristic of early basilicas so that their use in Oamaru gives that church a closer relationship to Early Christian basilicas. The columns support a heavy entablature from which rises the clerestorey which is ornamented with a more refined version of the rather odd Tuscan order first seen on the exterior of this church. The ceiling is covered with metal panels enclosed in plaster cornices which resemble an antique coffered ceiling, an identical arrangement to that used in South Dunedin.

The dominating feature of the interior is, as was liturgically appropriate, the sanctuary. To achieve such emphasis Petre has here relied on the symbolic and aesthetic values of light and its interaction with sculptured Oamaru stone rather than the heavy plasterwork of South Dunedin. Entrance to the raised sanctuary area is provided by a simple arch which springs from the entablature of the colonnade. This is echoed by a similar arch at the rear of the sanctuary and together they comprise the pendentives of the dome. Apart from simple wreaths on the pendentives and the moulding of the arches the sanctuary is devoid of sculptural ornamentation, depending on the entrance of light through the drum of the dome for its effect.

The position of the dome is interesting. Traditionally domes were sited at the crossing of transepts and

nave, immediately before the choir and sanctuary, for example the dome of Sir Christopher Wren's St Paul's. In their exterior elevations both South Dunedin and Oamaru appear to adhere to the traditional format however the inclusion of sacristies at the rear of the churches reduces the internal length of the sanctuary so that the domes of both churches cover much of the sanctuary with only one and a half metres extending beyond the dome. This area was designed for the high altar, a metre higher than the sanctuary. While his positioning of the dome could be seen as an expedient to cope with short naves and a lack of real transepts, Petre's intentions were far more specific.

First there was his strong belief that light should draw the worshipper's eye to the altar and thence draw the spirit upwards, a belief which echoes Newman's concept of

> "the graceful dome, circling above one's head like the blue heaven".[20]

Secondly, there were strong precedents for sanctuary domes. In Notre Dame de Boulogne, the church adjoining Petre's school in France, the dome also appears to light the sanctuary as it does in J.L. Hittorf's St Vincent de Paul in Paris. In Il Redentore Palladio's dome was also positioned above the sanctuary with only a small apse at the rear to hold the high altar. In fact Petre's

20. Newman J. Loss and Gain |and| Callista, Garland, New York, 1975, pp 23-24

articulation of dome, crossing and transepts appears to be the most Italian-influenced aspect of his basilican designs largely conforming to the sixteenth century precedent established by Palladio, Alessi and Vignola in which

> "The transept no longer projects beyond the nave; both it and the crossing merge into a single upward and outward expanding space that is called in Italy a 'tribune'."[21]

That Petre's siting of the dome was carefully considered and quite deliberate is supported by his placement of the main dome of the Cathedral of the Blessed Sacrament above the sanctuary rather than over the crossing.

In St Patrick's, Oamaru, we therefore find the architect continuing to struggle with the problem of evolving an aesthetically pleasing dress for the basilican plan which had proved so suitable for the congregational purposes of a parish church. Stylistically his movement has been towards a greater restraint both in material and sculptural ornament. His use of classical ornament is particularly interesting: while at this stage he appears to lean towards antique classicism, the use of French classical sources and a lack of respect for traditional conventions, which is revealed in his superimposition of the Tuscan order above the interior Corinthian colonnade

21. Ackerman: Op. cit. p 129

betrays a whimsical inventiveness which has not hitherto been associated with this architect. Although the church can be criticised for its dissonant, somewhat amateurish exterior Petre's success in creating a grand church which served its dual purposes of a congregational church and a beacon for the faith must be acknowledged.

To a great extent the commission for his next basilica was better defined and easier to execute. In 1898 Petre was requested to design a church for the Thorndon Parish in Wellington. This church, the Basilica of the Sacred Heart, was intended as a replacement for C.J. Toxward's wooden Gothic St Mary's Cathedral (1850-1867) which had been destroyed by fire on 28 November 1898. Petre's commission was not a cathedral however; the southwards expansion of Wellington had convinced the clergy that the cathedral should be more centrally sited, therefore the new church was intended as a parish church to serve the large Thorndon area. In fact, although at least two cathedral designs have been commissioned, since neither was built Wellington, the Archbishopric, remains without a cathedral.[22] Petre's basilica has consequently served as the bishop's seat for all but nine years of its history, in spite of its inadequacy for the purpose.

22. The two known designs are Petre's of 1901 which will be discussed in the next chapter and J.S. Swann's of 1912 which was heavily dependant on Petre's design.

|19| Since the Basilica of the Sacred Heart which opened in 1901 was designed as a parish church it is similar to its two predecessors in spatial organisation and proportions; comprising a simple rectangle thirty point five by fiteen point two five metres of which the choir and sanctuary measure seven point five metres square. The church is built of a reinforced concrete core faced on the outside with red brick and Oamaru stone and on the inside with Oamaru stone. The roof is once again of Marseilles tiles. This then is Petre's first use of brick polychromy to which he was to return in a number of major parish churches and which was to be a major feature of his design for Wellington Cathedral.

The use of brick was probably dictated by Wellington's lack of good building stone and the high cost of transportation which rendered the importing of Oamaru stone beyond the means of the Catholic congregation. However, the fact that this is his third basilica each of which has been built in a different material may indicate a preference for local materials or a continued exploration of the relationship between his design, style and materials. Petre was no stranger to brick having used it to face concrete buildings such as the Bond Street Warehouses, Dunedin and Mt Magdala Asylum, Christchurch. This

was his first brick church and it is likely that the recent precedent of J.F. Bentley's Westminster Cathedral, encouraged this experiment. Constructional polychromy was used in New Zealand earlier in the nineteenth century, a notable example being William Mason's All Saints, Dunedin, of 1865. While Mason's church is an example of true Victorian constructional polychromy Petre's method of using red brick for the basic structure and reserving the contrasting whitestone for major decorative features, as he had done with bluestone and Oamaru stone in South Dunedin, can not truely be described as constructional polychromy.

An important factor in the designing of Sacred Heart was its relationship with the future cathedral. Petre's design for Wellington Cathedral was published in May 1901 and it must therefore have been in his mind while he worked on the subordinate church. The two churches were intended to be complementary in appearance, an effect which was assisted by the use of similar materials as had been done in Dunedin with St Joseph's and St Patrick's. It was also desirable that the two churches be hierarchically distinct; the cathedral's pre-eminence being marked by its domes and greater size while Sacred Heart had only its two small frontal towers.

Sacred Heart's similarity to St Patrick's, South Dunedin, is not simply one of purpose. Petre has returned to his original basilica for much of his design especially

the articulation of the nave and clerestorey which, with arched windows framed in an arcade of Oamaru stone, repeats the pattern originally used in South Dunedin. The transepts and dome of South Dunedin have been omitted, indicating Petre's recognition of their inappropriateness for the purposes and finances of a working class parish. The proposed convex portico of South Dunedin has been replaced by a more orthodox classical temple facade with rather more success than its prototype in Oamaru.

In the absence of a sanctuary dome the dominant exterior feature is the building's templefront which dominated Wellington from its hill slope. Although closely related to St Patrick's, Oamaru, with its projecting pedimented portico and flanking towers, the proportions of Sacred Heart achieve far greater cohesion. The pediment has been enlarged so that it all but obscures the rear attic and the portico, while it remains six columns wide, is narrower being attached to the nave by pilasters rather than free-standing columns. The major improvement is in the articulation of the towers which are an integral part of the facade, linked to the portico and aisle roofs by the continuation of the brick cladding and horizontal cornice across the tower. In addition,the position of the towers correlates with the internal side aisles which create a greater relationship between the interior and facade of Sacred Heart than in either of the two previous basilicas. Nevertheless, although the lower zones of the towers achieve a high degree of structural integrity with

the body of the church,it must be acknowledged that the towers' upper zones did detract from the fine proportions of the temple motif so that their removal in 1942 actually enhanced the original design.[23] The upper zones of the towers are considerably more sophisticated than those in Oamaru. The columned drums have been replaced by pedimented towers containing arched openings flanked by Ionic pilasters. This development was further refined in the Cathedral of the Blessed Sacrament. A certain precedent can be seen in the pedimented and pilastered clock tower added to the Oamaru Post Office in 1894 but the close similarity of these towers with those of Trinita del Monte, Rome, provides further circumstantial evidence of Petre's familiarity with Rome, although the towers of Trinita del Monte are not associated with a columned portico. Sacred Heart is Petre's last attempt at combining a projecting temple portico with flanking bell towers. Although in this instance he achieved a greater degree of harmony the recessed portico in the Cathedral of the Blessed Sacrament indicates his own dissatisfaction with this arrangement.

23. The removal of the towers took place after they were damaged in an earthquake early in 1942.

|20| The interior of Sacred Heart is also closely related to that of St Patrick's, South Dunedin, with its two arcades which separate the side aisles from the nave. In Sacred Heart, however, the interior is considerably lighter because of the arcade's finer proportions, the use of the Ionic rather than the Corinthian order, and the provision of larger, arched windows in the clerestorey. Furthermore, ornamental plasterwork has been considerably reduced thus creating a more spacious effect than did the heavy plasterwork of South Dunedin. The spaciousness of the interior has been enhanced by the fact that this church was completed so that the choir is contained in a balcony above the arcaded narthex, rather than in the protruding, temporary structure of St Patrick's, South Dunedin.

In the absence of a sanctuary dome or rear window Petre contrived to emphasise the sanctuary by using the very familiar Palladian window motif in a most unusual manner. As in South Dunedin, the focus of the ornamentation of the sanctuary is an Italianate oil painting of the Risen Christ. While the painting in South Dunedin is surrounded by heavy plasterwork, that in Sacred Heart stands in a small tunnel vault which frames it and the high altar. The simplicity of this arch, unencumbered by any subsidiary

plasterwork apart from a cartouche on the apex of the arch, is enhanced by the delicate ionic columns and entablature from which it springs. A similar motif is used in the chancel arch, thereby relating the front and rear walls of the sanctuary to create the spatial unity Petre strove for in sanctuaries. In addition,the use of two similar arches of different sizes creates the allusion that the sanctuary is much deeper. In Sacred Heart the sanctuary has been further enriched by the use of mosaic tiles on the floor and lower walls. Its role as the clergy's domain has been emphasised by a balustrade which sets it firmly apart from the congregational part of the church.

The dignity of the sanctuary has been augmented by the colours of the interior in which the sculptural details are painted white against cream and burnt earth, so that both arches and their supporting columns are clearly highlighted. Originally the interior was of unpainted Oamaru-stone however this was painted in gold and pastel tones early this century. The present colour scheme was introduced by Ernst Plischke in the late 1950's and repeated under Sir Michael Fowler's direction in 1980 with the metal ceiling being painted chocolate brown.

Sacred Heart marks Petre's last exercise in purely classical design. Even while he was working on it he was designing his masterpiece, the cathedral in Christchurch.

Although Sacred Heart represents Petre's classical architecture at its most refined it was also designed to relate to his cathedral design for Wellington, a bizarre amalgam of Romano-Byzantine influences. The two churches would have provided an interesting pair, related in materials, style and set within a functional hierarchy. As it is the Basilica of the Sacred Heart presents a sad picture; its congregation having dwindled as has been the fate of many inner-city churches and its dimensions and structure so woefully inadequate for the diocesan purposes for which it must often be used. Petre cannot be blamed for this failure. The needs of a cathedral can not be served by a parish church as will be fully discussed in the next chapter.

Although Petre continued to design Gothic churches throughout his career, his satisfaction with the basilica's suitability for large congregations was such that after 1886 he used the basilica as a basis for all his major parish churches. While the plan for St Patrick's, South Dunedin, had proved satisfactory and was repeated Petre seemed disappointed with its appearance and experimented with alternative styles in subsequent basilicas. This stylistic exploration partly reflected his own curiosity; however it was also indicative of his desire to show that his major churches were unequivocally Catholic. The fact that other denominations had also used basilicas - for example the previously mentioned Presbyterian basilica in Wansbeck Street, Oamaru - meant that the form alone was

insufficient identification. Therefore the external appearance of the church should indicate its allegiance. In the absence of a dome, South Dunedin's exterior, with its veneer of Port Chalmers and Oamaru stones, did not really proclaim its Catholic allegiance. Both the Oamaru and Wellington churches, however, were clearly identified as Catholic by their combination of domed towers and temple fronts. Having established these features as characteristically Catholic Petre was able to exploit their associative qualities in his most important commission, the Cathedral of the Blessed Sacrament. Petre's interest in the external association and impact of his basilicas already contrasts with his chief aim in interior design which was to create an interior which accommodated the Catholic liturgy as purposefully and aesthetically as possible. After the initial failure of South Dunedin's poorly lit interior Petre achieved this aim and refinement and suitability remain characteristic of all his completed interiors.

The three basilicas discussed in this chapter have shown Petre to be an original architect prepared to experiment with plans and styles with which New Zealand was unfamiliar. His originality is further emphasised by his disregard for conventions, such as those governing the disposition of the classical orders. He is revealed as a most unorthodox classicist whose desire for the grandeur

of the whole is achieved at the expense of the integration of the parts. This feature of his work is chiefly related to exteriors, such as that of St Patrick's, Oamaru, where he seems most interested in achieving a picturesque and impressive silhouette rather than a harmonious classical design. Not only did this result in a loose relationship between the various external elevations of a particular building but it also led Petre to largely disregard the usual practice of using the exterior to provide an introduction to the disposition of the interior. His interest in dominating, idiosyncratic silhouettes grows throughout his career, each of his subsequent basilicas being dominated by unusual forms which range from Waimate's central, frontal tower to Gore's twin-towered, Romanesque facade. It is particularly interesting to find that Petre's originality was not curbed by the responsibility inherent in his cathedral designs,which combine his characteristically refined and functional interiors with exteriors in which an overwhelming number of elements are put together to achieve impressive, if awkward buildings.

CHAPTER IV

THE BASILICA AS CATHEDRAL

The greatest commission to which an architect can aspire has traditionally been the designing of a cathedral. While very few architects gain this ultimate commission Petre designed three: the Roman Catholic cathedrals for Dunedin, Wellington and Christchurch. Of these only one, that in Christchurch, was completed while that for Dunedin was partially built. Petre's Wellington Cathedral, as already mentioned, went no farther than the planning stages. The first of his cathedrals, St Joseph's, Dunedin, was a Gothic cruciform design. However Petre chose basilican plans for his later two cathedrals thus suggesting that he found a basilica more suitable for cathedral purposes.

A cathedral must fulfill a number of diverse functions. As its name implies it is the bishop's "seat", from which the bishop presides over Diocesan affairs. This means that it is an administrative centre as well as a congregational church. A cathedral's importance as the principal church in a diocese must be recognised in the grandeur of its design while its size must be larger than that of an ordinary parish church in order to accommodate the large congregations attracted to diocesan events.

Furthermore the cathedral must provide for subsidiary chapels and votive altars in which the local veneration of particular saints or cults can be accommodated. Finally, a cathedral also acts as a church for the parish in which it is situated. Thus while a cathedral must be large and grand, and include subsidiary altars, chapels and rooms for the storage of archives etc., it is also required to house its own parish as intimately as possible. In the nineteenth century in both Great Britain and New Zealand the difficulties imposed by these demands were increased by the newly emancipated Catholics' desires to build cathedrals which could rival the cathedrals of the Established Church in size as well as grandeur.

|21| St Joseph's, Dunedin, the first of Petre's cathedrals, was a grandiose project designed in the form of a cross with a large porch and flanking towers forming the foot, the nave and aisles the body, the sanctuary the head and the transepts the two arms. It was designed in what Petre described as

> "the Gothic which prevailed in France from the middle of the thirteenth to that of the fourteenth centuries, for the most perfect specimens of which the cathedrals of Amiens and Rheims

may be looked to".[1]

The church was very large - seventy-four point five metres long and thirty-eight point five metres wide at the crossing. Its exterior was to be dominated by two towers on either side of the entrance porch and the tall spire which was to rise above the intersection of the nave and transepts to a height of sixty-three metres.

St Joseph's is of rubblestone masonry construction using Port Chalmers bluestone as the basic material, with Oamaru stone detailing. Its Gothicism is expressed in its lateral flying buttresses, triple pointed arched entrance porch and lancet and rose windows as well as in its abundance of sculptural ornamentation, most of which was carried out by Louis Godfrey. A similar wealth of ornamentation was also found in the interior where the Gothic style is reflected in the pointed arcades, which separate the side aisles from the nave, and the simulated groining of the roof vaults.

It may have been apparent as early as 1886 that the church might never be completed, certainly Petre had realised it by the time of his death, having commented to his son that "the tragedy of his career was that only a third of his dream came true".[2] According to Bernard

1. F.W. Petre: "St Joseph's Cathedral, Dunedin", New Zealand Tablet, 10.9.1880, p. 15

2. Letter from B.F. Petre to Gerta Petre, 20.5.1934. In the possession of Mr A.J. Petre, Christchurch

Petre

> "the cathedral in Christchurch was always a substitute in the eyes of the architect |designed| to reconcile the cost factor with the idea of building a temple worthy of its purpose".[3]

However the suggestion that Petre's reasons for abandoning Gothic in favour of a basilican design for his later cathedrals were simply economic overlooks the fact that the Gothic design of St Joseph's was unsuitable for cathedral purposes as Petre had probably realised.[4] While it must be acknowledged that Petre's dissatisfaction with the speed and cost of rubblestone construction was a factor in his basilican experiments he did use concrete in the Gothic Church of the Sacred Heart in North East Valley in 1891. Therefore, it is conceivable that he would have been prepared to use the material in a much larger Gothic church, as did F. de J. Clere in St Mary of the Angels, Wellington in 1918, had he considered the style suitable. That he rejected both the Gothic style and cruciform plan of St Joseph's indicates his belief, in common with British Catholic architects of the late nineteenth century, that the style was inappropriate to the liturgical needs of a Catholic cathedral.

3. Unpublished, untitled article by B.F. Petre in the possession of Mr A.J. Petre.

4. If Petre's rejection was based entirely on economic grounds it is most unlikely that he would have chosen a Gothic style for the major church of St Patrick's, Greymouth in 1886.

The design for St Joseph's Cathedral certainly provided the size and grandeur demanded in a cathedral. Its dimensions provided more than adequate seating for a congregation of two thousand which would be anticipated in a diocese of around six thousand. The elaborate sculptural programme set the church apart from other Catholic churches in the diocese and provided the necessary display of power and wealth which was desirable in a cathedral, while the soaring spire would have enabled the church to dominate Dunedin city in spite of its situation outside the city centre. There were many deficiencies in the design however. The cruciform plan did not suit the Catholic liturgy as has already been mentioned in chapter two; had the proposed choir and sanctuary been built the length of the nave would have set the sanctuary at a great distance from the nave and made the sacrifice of the Mass seem unduly remote. In addition, light entering the crossing from the windows of the central tower would have interrupted the line of vision and so reduced the necessary emphasis on the altar. Petre's intention was that the nave should serve the usual congregation while seating in the transepts would accommodate the extra numbers in attendance on diocesan occasions; however, the transepts would have provided poor seating accommodation as they were also expected to house the numerous votive altars anticipated in a cathedral. Furthermore the transepts interrupted the nave so that movement along the ambulatory would be severely impeded. This problem is exacerbated

by the fact that the fifteen metre wide nave is extremely narrow so that the progress of a large crowd of communicants to the altar would be extremely slow. It is likely therefore that Petre's desire to build a basilican cathedral was to a large extent stimulated by the inadequacies of his Gothic design and the realisation that these deficiencies could only be overcome in a Gothic building by greatly increasing the width of the nave, a formidable task as he pointed out.[5]

Obviously other factors also affected his decision to design two basilican cathedrals which was quite remarkable in a colony in which ecclesiastical architecture was completely dominated by the Gothic style. Although classical designs had become common in Ireland, Europe and North America, all three of New Zealand's previous nineteenth century Catholic cathedrals were in Gothic styles.[6] Nevertheless, the decision to build a basilica in Christchurch was arrived at quickly through private consultations between Petre and the Bishop of Christchurch, Joseph Grimes. In the earliest written evidence of such a consultation Petre demonstrates that he has already

5. Letter from Petre to E. O'Connor, 9.3.1900. Archives of the Christchurch Diocese: Building File Box No. 1.

6. Petre's own St Joseph's Cathedral 1886. Thomas Edward Mahoney's St Patrick's Cathedral, Auckland, 1882. C.J. Toxward's St Mary's Cathedral, Wellington 1867.

decided that if

> "you want size, dignity and harmony at a minimum of cost .. you must give up all idea of Gothic, which for church building is always to be regretted, and take the Roman Basilica as your model".[7]

The entire letter strongly argues for the building of a basilica which has led to the supposition that Grimes would have preferred the Gothic style. In fact there is no evidence to suggest that this is the case and Grimes' own experiences and associations had probably prepared him for such a design.

In 1898 Grimes had made an ad limina visit to the Vatican and Europe at the end of which he had announced his decision to devote the remainder of his energies to the erection of a cathedral.[8] In fact he had made this decision prior to his journey and he spent much of his time in Britain, Europe and North America raising money for this cathedral in the colonial missions so that he returned home with over £3,000 for the Cathedral Fund. While travelling Grimes visited many other bishops and took the opportunity to view their cathedrals; in Dublin, for example, he stayed with Archbishop Walsh whose cathedral was a domed basilica. Grimes was particularly

7. Petre to Grimes 6.2.1899. Building File Box 1, Archives of the Christchurch Diocese.

8. Bishop Grimes made his announcement at a general meeting of the Catholics of Christchurch held in March 1899. The Weekly Press 15.2.1905, p. 66

interested in another basilica in Ireland, the Church of the Immaculate Conception, Limerick.[9] It had been built around the previous church which was demolished after the completion of the new building, an idea Grimes thought of copying.[10] In London Grimes was shown over the growing Westminster Cathedral by his old friend Archbishop Vaughan. While in Rome he was much impressed by the recently restored San Paulo Fuori le Mure. Thus Grimes was well accustomed to basilican cathedrals; he had preached in them and he was aware of their historical associations in the Catholic Church. It is significant that on the opening of Christchurch Cathedral he claimed the basilica as his idea, partly because a Gothic building would be less stable in New Zealand earthquakes, but chiefly because his

> "ideal was the Church of St Paul, outside the walls of Rome, and the interior of our cathedral is very much like it".[11]

Having decided upon a basilica for Christchurch Petre's choice of a basilica for Wellington Cathedral was straightforward. Not only were the design and method of construction more suitable for earthquake prone Wellington

9. Evidence of visit contained in a letter from William J. Walsh, Archbishop of Dublin to Bishop Grimes, dated 6.10.1897, discussing Grimes' visit to Limerick and Dublin. Archives of the Christchurch Diocese, Building File, Box 1. The buildings are described in de Breffny and Mott, op. cit. pp 150-176 (passim)

10. Letter to E. O'Connor from J.T.N. Meance dated 6.8.1898 Archives of the Christchurch Diocese Building File Box 1

11. Interview with Bishop Grimes, The Weekly Press, 5.2.1905 p 66

but the fact that Wellington Cathedral was the Archbishopric made the metropolitan cathedral of Westminster an important precedent for Petre's design. Furthermore the vast area proposed for Wellington Cathedral (ninety-nine metres by fifty-seven point three metres) could only be accommodated in a basilican design where width was not dependent on height.[12]

The wisdom of Petre and Grimes' choice of a basilican plan is demonstrated by the successful way in which the Basilica of the Blessed Sacrament has functioned as a cathedral. Its size and the grandeur of its exterior, dominated by its large sanctuary dome, amply provide the atmosphere necessary in a cathedral while its French and Italian classical influences render it as different as possible from the English Gothic Cathedral which was being erected by the Anglicans. The interior solves the problem of providing enough seating for large diocesan ceremonies with the provision of upper galleries above both aisles to accommodate very large congregations. The nave, designed to seat the usual parish congregation is therefore much smaller and more intimate than that proposed for St Joseph's, Dunedin. Subsidiary chapels have been included along the side walls in a manner that does not intrude upon either the upper or lower ambulatories so that both the needs for votive altars and a processional

12. The Canterbury Times 3.5.1900, p. 39

way have been satisfied. Finally, the front towers and the piers of the dome have been used to provide access and storage rooms in addition to the usual sacristies at the rear of the church. The sanctuary, with its dramatic lighting, is large enough to accommodate the many participants necessary in a major ceremony yet the design of the church provides the whole congregation with much closer contact than would have been possible in St Joseph's.

Both Christchurch and Wellington Cathedrals were to be of similar construction, in what Petre described as the "Roman method", whereby a permanent formwork (Oamaru stone in Christchurch, brick in Wellington) was braced with external ironwork while a heart of concrete and hoop iron was poured.[13] It is interesting to note that this is the only recorded reference by Petre to the origin of this method and it is significant that his letter takes pride in associating it with the basilica, also of Roman origins.

The contract for the Cathedral of the Blessed Sacrament was signed on January 25, 1901 with the firm of J. & W. Jamieson who began work immediately upon the laying of the foundation stone on February 10, 1901. J. & W. Jamieson were a well-known and experienced Christchurch construction company, among whose surviving works are the first block of St George's Hospital and the Government

13. Letter from Petre to Grimes 19.10.1900. Archives of the Catholic Diocese, Building File, Box 1.

Buildings in Cathedral Square (1911-1912). By signing the contract Jamiesons accepted an absentee architect and a cantankerous employer (Grimes) who

> "criticised and minimised the ability of all the key figures and made it seem that everyone was out of step but him".[14]

Throughout the building's four year construction period the company displayed remarkable patience and tact in their relationships with both Grimes and Petre. Not only did they cope with Grimes' perpetual and uninformed supervision but they extended him so much credit that their own bank threatened to foreclose their overdraft. In Petre the company had to cope with a most particular supervising architect who visited the site at irregular, unannounced intervals. Furthermore many of Petre's techniques, in particular his use of concrete hanging floors and concrete dome supports, were new to the company yet they closely followed his instructions and supported him against the criticisms of Arthur Dudley Dobson, the City Surveyor[15],

14. McGovern T.: "Tenacious Builder and Skilful Architect of a Gracious Cathedral", The Press 2.5.1970, p. 15

15. On November 22, 1901 Dobson had written to the builders that "This concrete must contain sufficient mortar to make solid, substantial work and give proper adhesion to the stone. Unless this is done I shall deem it a breach of the Building Bylaw; Clause 36, Bylaw No. 1, 1897." In fact, as Petre pointed out, had they included sand in the mortar it would have eroded the limestone. (Petre to Dobson 12.12.1901). Archives of the Catholic Diocese Building File, Box 2.

and against the Bishop's wrath at the discovery of subsidence in 1904.[16] In both cases their faith in Petre was justified.

The Cathedral was officially opened on Sunday, February 12, 1905, only four years after the laying of the foundation stone. The speed of construction is largely attributable to Petre's use of modern materials (concrete) and prefabricated components such as the embossed zinc panels used on the ceilings and doors. However, the construction company's efficiency must also be acknowledged. Jamieson's

> "imported two steam cranes with jibs each seventy five feet long and capable of lifting four tons with ease .... |which| place huge stones of thirty hundredweight on the wall in the space of a few minutes ... The steam cranes are the first of the kind used in the colony and cover the entire building".[17]

In addition to travelling to England to inspect latest building techniques and to purchase the necessary machinery the firm also developed their own machines, such as a moulding machine for the curved arches, to facilitate construction. To a large extent the use of mass-produced

16. The problem of subsidence has been fully discussed in the unpublished thesis of B.F. Allomes, pp 87-89.

17. The Weekly Press 16.2.1905

components and modern construction techniques sets the Cathedral of the Blessed Sacrament apart from contemporary church architecture in which craftsmen-like techniques, using the finest materials, were preferred. Petre, however, designed churches in the same way as he had designed offices and warehouses, the fact that he did not consider this incompatible with

> "the building of a beautiful church
> |which| was regarded by our ancestors
> as a prayer to God"

shows his attitudes were those of a twentieth-century architect rather than a Victorian.[18]

The construction methods and materials used were the most suitable for New Zealand conditions. Concrete is now well recognised as Canterbury's most available building resource while the three stones used in facings - Oamaru, Mount Somers and Timaru bluestone and Takaka marble in the sanctuary - are all found locally; as were the totara and kauri used wherever timber was required. Only the Marseilles and copper roofing tiles and metal ceiling and door panels were imported, their source being the firm of Wunderlich and Co., Sydney. A similar consideration for locally available materials was made in the design for Wellington in which bricks were to provide the cladding. In addition the materials and designs were regarded as the

18. New Zealand Tablet, 10.9.1880, p. 15

most immune to fire and earthquakes, both regarded as posing the greatest threat to colonial buildings.

Therefore, by designing a basilica in permanent materials Petre had not only chosen the design which was liturgically the most suitable for a Catholic cathedral, but he had also specified the materials and construction methods which were the cheapest, fastest and most reflective of local materials. Such design sensitivity sets Petre apart from many of his contemporaries who continued to design buildings in the archaic Gothic mode which was so dependent on intensive labour.

If Petre's approach to building techniques was forward looking his attitude towards the stylistic dress of his cathedral was equally unorthodox. Instead of seeing style and structure as an integral unity, the approved approach in the nineteenth century, Petre tackled a project first from a functional point of view, and devised a structure most suitable to the building's function. He then considered the question of appearance and "dressed" his building in what he felt to be the most appropriate fashion. This approach created many stylistic defects, especially a frequent lack of relationship between a building's exterior and interior as is particularly demonstrated by the three entrance doors in St Joseph's Cathedral, none of which aligns with the interior aisles. Nevertheless, although such an approach

could never emulate Pugin's stylistic integrity, it allowed Petre to dress his buildings in styles he found to be appropriate in terms of historicism and associationism.

|22| That this was Petre's method is substantiated by the evolution of the Cathedral of the Blessed Sacrament. The plan which Petre first submitted to Grimes was a rough sketch of a rudimentary basilican building with neither towers nor dome to elevate it from the ranks of a common parish church.[19] Basically it is the same as his previous basilicas with the addition of subsidiary chapels about the sanctuary and enlarged so that it would "hold when completed 2,000 people at an outsize cost of £15,000". It is a rectangular building, measuring forty metres by twenty-five metres, with his habitually non-protruding transepts. The cross-section reveals a gabled nave with arcaded side aisles similar to those in Sacred Heart, Wellington. Apart from suggesting

> "the Ionic order as the most appropriate, being 11% cheaper than either the Corinthian or Composite"

and that a dome

> "could at reasonable cost be run up to a

19. Petre to Grimes, 6.2.1899. Archives of the Christchurch Diocese, Building File Box 1.

height of ninety five feet"

the letter gives no impression that the appearance of the building has been considered. Petre has in fact formulated a structure able to perform the functions required by Bishop Grimes ("size, dignity and harmony at a minimum of cost"[20]), but has given little thought to the building's appearance. However, when the Cathedral Building Committee met to consider the project in January 1900, the cathedral had not only grown to the monumental proportions of eighty-seven point five metres by forty-five metres but had also become an elaborate and highly ornate building for which Petre had devised a complete sculptural and architectural programme. While Petre's new proposals were considered beyond the means of the diocese Grimes' enthusiasm was such that he negotiated with both Petre and the committee to enable the project to be undertaken. Obviously, therefore, Bishop Grimes, who was a highly educated man, appreciated Petre's chosen style.[21]

Unfortunately there is no such written evidence concerning the evolution of Petre's other two cathedral

20. Ibid

21. Petre's design was regarded as too costly and he was asked to modify the design (Grimes to Petre 15.2.1900) The compromise eventually adopted was the reduction of the size of the church by the alteration of the scale of the plans from 1/8 of an inch to 1/6 of an inch. (Petre to Grimes 9.3.1900). Both letters in the Archives of the Christchurch Diocese. Building File, Box 1.

designs. St Joseph's, Dunedin, however, can be seen as encompassing a number of simple references to accepted ecclesiastical design, Petre's own nostalgia for France and the French origins of Dunedin's earliest priests who, as indeed were all the early Catholic missionaries, were of the French Marist order. The influences involved in both Wellington and Christchurch cathedrals are more diverse and complex.

|23| The Cathedral of St Mary, Wellington has a close stylistic relationship with J.F. Bentley's design for
|24| Westminster Cathedral (1895-1903), both being domed basilicas of similar materials and proportions. Westminster was the most important Catholic church to be built in England since the Reformation. It was the Metropolitan Church, the name denoting the seat of an Archbishop, which gave the diocese precedence in the land. As such it had an important role to play as a material manifestation of the glory and historical truth that was Catholicism. Although the style of Westminster was largely the inspiration of Cardinal Vaughan its execution and design was totally that of its architect, J.F. Bentley.[22]

The resulting building was a rectangular basilica, from which only the east end projects, with

22. Little B. op. cit., p. 169

three large saucer domes covering the nave and a smaller but similar dome over the sanctuary. Externally the walls present a flat appearance which is relieved by its polychromal construction and the small domed turrets which rise at regular intervals along the sides. The entrance facade is dominated by a huge, arched portal flanked by two domed towers.

St Mary's Cathedral in Wellington had similar functions to Westminster Cathedral because it too was a Metropolitan Cathedral. Consequently, Petre closely followed the plan of Westminster Cathedral to create a similar rectangular basilica in which side chapels were accommodated between the lateral buttresses and the sanctuary continued beyond the crossing to create a total length of similarly monumental proportions.[23] The exterior of Petre's design alludes to Westminster in many details such as the domed turrets along the side, the arched entrance portal and a similar use of red brick and white polychromy.

The style of Westminster is said to be "Italo-Byzantine",[24] a style which both Vaughan and Bentley saw

23. The total length of Westminster Cathedral is 104.2 metres while that of Wellington Cathedral was 99.1 metres.

24. Dixon and Muthesius: op. cit. p. 225

to be evocative of early Catholicism and symbolic of the universality of Christianity. In adopting a similar style, which he defined as "Romano-Byzantine", Petre quite deliberately made similar illusions.[25] In addition his design for New Zealand's capital city established a firm stylistic relationship with that of the Metropolitan Cathedral in London which echoed the political relationship between the two capitals.

|25| The allusions contained in the Cathedral of the Blessed Sacrament are, to a large extent, more personal reflecting Petre's own committment to ultra-montanism which was shared by Bishop Grimes. The design of Petre's cathedral was complicated by the sociological dominance of Anglicanism in Canterbury and that denomination's cathedral then being built in the very centre of the city. In Dunedin, where St Joseph's was the first cathedral to be built, Petre chose his style free from the necessity of considering its relationship with an existing building. In Wellington and Christchurch however, there were already Anglican Cathedrals, therefore Petre's choice of style, while it must embody the grandeur and dignity necessary in a cathedral, had to establish a distinction from the Anglican buildings. In Wellington the combination had been achieved by a

25. "St Mary's Cathedral, Wellington", The Canterbury Times, 2.5.1900, p. 39

close reliance on Westminster Cathedral. Petre's solution in Christchurch is a more original amalgam of many traditional Catholic sources. That his solution was successful is evidenced by the editor's comment in The Press at the opening of the Basilica;

> "It does not challenge comparison with the Anglican Cathedral because it is designed - wisely so we think - in a totally different style of architecture. Each has a beauty and dignity of its own, and each forms a worthy counterpart to the other."[26]

The major influence on the Cathedral of the Blessed Sacrament is that of Roman Catholic Churches of eighteenth and nineteenth-century France. Additional influences which can be traced are those of Classical Italian architecture and Irish Catholic architecture. While such diverse influences might indicate a certain eclecticism in Petre's architecture, such is the originality of his structure that this is not apparent. Ideologically there is no such eclecticism because each of these architectural schools was originally derived from Rome, the birthplace of Roman Catholicism, and the classical references made by each school were deliberate manifestations of both the universality of Catholicism

26. Editorial, The Press, 13.2.1905

and the central authority of the Pope. Certainly Petre deliberately made the same statement, his combination of elements being evocative of so many historic Catholic buildings. That the major influence was French was also a deliberate intellectual choice. The Canterbury Mission was also established by the French Marist Fathers, and all parish priests from the arrival of Fr Chataigner S.M. in 1860 until Bishop Grimes' appointment had belonged to that order. Thus the French influenced cathedral can be seen as an architectural memorial to the diocese's pioneers; an historical allusion which the thoughtful Petre would have made quite consciously.

|26| The greatest single inspiration in the design of the Cathedral of the Blessed Sacrament must have been Notre Dame de Boulogne which was built by Petre's headmaster at Mgr Haffreingue's College, Mgr Haffreingue, from 1827-1866. While the architecture of this cathedral is not highly regarded - even its guidebook describes it as "more strange than beautiful"-the church provides strong precedents for Petre's cathedral.[27] Not only do both churches appear to be of the same material, limestone, but they also use the same structural elements similarly disposed. The facade of Notre Dame consists of an

27. Notre Dame of Boulogne-sur-Mer, Guidebook, Saep Edition, N.P.

entrance door flanked by two domed towers which are divided into three zones by bold cornices in the manner used by Petre. Behind them stretches a gabled nave, its edges finished in a turned balustrade, with the rear of the church dominated by a large dome poised on a severely elongated, colonnaded and fenestrated drum. Haffreingue's dome rises straight from the roof in a more delicate fashion than was Petre's practice. However, the fact that it almost collapsed in 1876 may have been responsible for Petre's habitually heavy dome supports.

While the interiors are designed around
|27| different elements, Haffreingue's being an awkward
|28| combination of arcades, columns and semi-domes while Petre's is a lucid composition organised around an orthodox post-and-lintel construction, there are strong similarities in the overall effect. Both churches have walls and columns of creamy white limestone; the nave of each church is separated from its side aisles by long rows of columns terminating in an arch which gives entry to the sanctuary. Both sanctuaries are flooded with light by the main domes, a most unusual arrangement.

Although it could be said that all the elements used by Haffreingue and repeated by Petre were

characteristic of French classical architecture, especially the flanking entrance towers and rear dome, Petre's close experience of Notre Dame de Boulogne makes it the most probable source. Nevertheless, other influences can be traced, in particular that of Jacques Ignace Hittorf whose church of St
|29| Vincent de Paul in Paris is in fact referred to as

> "the model on which, to a certain extent, the Catholic cathedral of Christchurch has been designed",

in an anonymous report on the opening of the cathedral.[28] Unfortunately the author gives no indication that his information is based on an interview with Petre. Thus one can only speculate as to whether this church was in fact a model. Certainly

> "in its external features it bears little or no resemblance to the great Canterbury edifice beyond this: that it has two graceful frontal towers linked by a balustrade".[29]

Hittorf's church has no dome, its side elevations consist of flat stone walls, simply pierced by rectangular windows, while its front entrance is an exemplary temple motif. The interior of St Vincent
|30| de Paul, with its nave divided from the flanking aisles by two colonnades, does appear quite closely

28. New Zealand Tablet, 16.2.1905, p. 7

29. Ibid

related to The Blessed Sacrament. In particular Hittorf's use of a semicircular colonnade at the rear of the sanctuary, his upper colonnaded gallery, and his contrived use of light above the sanctuary provide important precedents for three of the most unusual features in Petre's cathedral.

Indeed the sanctuary of The Blessed Sacrament is treated quite differently from any of Petre's previous sanctuaries. First it is much longer in proportion to the nave, its length comprising two thirds of the nave, compared to his earlier basilicas in which the sanctuary's length equalled one third of the nave. Obviously the additional length was to accommodate the additional clergy frequently involved in diocesan ceremonials. Secondly, Petre's usual practice was to terminate the sanctuary with a rear wall which could act as a reredos to the altar. In The Blessed Sacrament this has been replaced by the continuation of the lower and upper colonnades in a semicircle about the end of the sanctuary. While the effect of this has been to unite the nave and sanctuary into a single space unified by the surrounding colonnades which Petre felt were "the prevailing feature of the building", the columnar screen was deficient as an altar reredos.[30]

30. The New Zealand Tablet 16.2.1905, p. 7

It is only since the replacement of the original high altar in 1972 that the columns have been fully revealed and their beauty appreciated. This unusual feature appears to be inspired by St Vincent de Paul although a similar colonnade was used by Palladio in Il Redentore (1576-7) where its combination of colonnade, upper whispering gallery and sanctuary dome creates a similar effect.

The third unusual feature in the sanctuary is the positioning of the main dome above the sanctuary. While this is in fact the same position as was planned in South Dunedin and occurred in Oamaru, to achieve this position in the Blessed Sacrament, Petre had to site his dome to the rear of the transepts, a most unorthodox arrangement. This unorthodoxy is less apparent inside the cathedral, however, because the transepts themselves are not obvious. In fact they extend the building's width by only twelve metres to incorporate the width of the external flanking portices, the inner space being used for subsidiary chapels opening off the side aisles,which are unbroken. As discussed in chapter three, Petre's siting of the dome above the sanctuary was deliberately done to illuminate the sanctuary with a symbolic flood of light. Again, both Notre Dame de Boulogne with its sanctuary dome, and Hittorf's church in which the sanctuary is illuminated by a stained glass ceiling fan-light, can both be regarded as

precedents. An additional source can also be seen in Louis Hippolyte Lebas' Notre Dame de Lorette (1823-36) in which the sanctuary is lit by an upper tower. In actual fact the four huge piers needed to support the dome which mark the corners of the sanctuary contribute to its spatial success whereas they would have severely impeded the building's internal appearance and functioning had they been sited at the crossing. Instead, the pendentives create the chancel arch, which frames the sanctuary, and the rear arch which stood above the original altar, the pair combining to create a most successful unity which is unbroken by excessive ornamentation. Indeed, Petre's treatment of the sanctuary is remarkably restrained for the Victorian period, his enrichment being provided by a subtle combination of fluted columns, (those in the nave are unfluted), marble steps and the mosaic floor which is a more elaborate example of his innovation at Sacred Heart.

Although the precedents for Petre's interior have been discussed at some length, it must be stated that the whole concept is remarkably original. The combination of lower and upper colonnades complete with entablatures and cornices is unprecedented, as is their relationship with the pilastered chancel arch with its delightful, balustraded pulpit.[31] Although the interior obviously has

31. While Hittorf's church also has a similar gallery, his intervening freize creates a very different impression from that evoked by Petre's scholarly correct arrangement.

its closest affinity with French classicism it has frequently been described as Renaissance, an effect which has perhaps been enhanced by its zinc ceiling which, with its three saucer domes and simulated coffering, is more evocative of the Italian traditions begun in fifth century churches such as Santa Maria Maggiore and continued in Renaissance works like Brunelleschi's San Lorenzo (1420).

The exterior of the Cathedral of The Blessed Sacrament is a complex arrangement of diverse elements in which the French classical element continues to predominate. The influence of Notre Dame de Boulogne was probably instrumental in Petre's decision to use domed entrance towers and a large rear dome as his major decorative elements. However, most of the exterior is his own personal creation in which a number of unrelated elements are combined. The basic structure has in fact been developed from his basilicas in South Dunedin and Wellington in which the walls are decorated with relieving arches, here reinterpreted with moulded arches which enclose all the arched windows.

Petre has enlarged on this however, to create a far more grandiose exterior by including elements which are well suited to Christchurch's climate as well as being decorative. Along the sides the western towers and short transepts have been linked by colonnades which shelter the two entrance doors on either side. The resulting

porticos, with their eight monumental Ionic columns which support the entablature and balustrade of the clerestorey, are most impressive, achieving a dominance usually reserved for an entrance facade. Not only do these provide the congregation with shelter from the vagaries of New Zealand weather but they also provide the building with a structural unity which would otherwise be lacking. Corinthian colonnades decorate the sides of Vignon's Church of the Madeleine in Paris (1807-45) however, their use in a two storey ecclesiastical building seems unprecedented. While Petre possibly remembered examples in secular buildings such as H.L. Elme's St George's Hall, Liverpool (1841-56) or C. Brodrick's Leeds Town Hall (1853-8) it is likely that he hoped the form's classical associations would be evocative of Rome and Roman Catholicism. The use of these colonnades not only unifies the side elevations of the church but creates an important link with the building's internal colonnades to establish a sympathetic relationship which was often lacking in Petre's churches.

The rear of the church has also been finished in a far more sophisticated manner than in his previous basilicas, all of which were expected to be surrounded by school or parish buildings. The cathedral, however, was built after its supporting presbytery and convent and was therefore expected to remain isolated. Consequently Petre

paid more attention to the rear of the church and in so doing achieved greater movement than in any previous rear facade. Dominated by the huge dome, the eastern facade echoes its curves in the convex upper storey but denies the movement in the severely straight lower storey, with its rigid pilastered ornamentation. The dome itself differs markedly from his previous designs for South Dunedin and Oamaru. While the elongated drum, fenestrated in the Oamaru manner, is retained the proportions of the copper dome itself are shallower, reminiscent of Roman domes such as those of Santa Maria Maggiore and Sta Maria del Popolo, rather than the steeper proportions of French classicism. The overall effect of this facade would appear to be aimed at alluding to Roman churches and thus act as a beacon to the church's parish of Southern Christchurch.

These influences do not of course account for Petre's awkward articulation of the dome's supports, a characteristic we have previously seen in both South Dunedin and Oamaru. These haunches are extraordinarily brutal, so opposed to the classical repose of the exterior that it must be assumed the effect is either the unfortunate result of ineptitude or intentional. The supports in the huge dome designed for Wellington Cathedral were to be masked by the roofs of the nave and transepts. This would suggest that Petre had not yet resolved the

articulation of a dome at the time of designing Christchurch. To a large extent the resolution of the dome of the Blessed Sacrament was governed by Petre's desire to position it above the sanctuary. Had he used the transepts to disguise the dome supports they would have had to be sited further towards the rear of the church. The need for subsidiary chapels in the nave rather than the sanctuary made this solution impossible so that Petre was forced into the awkward compromise we see today. While it is possible that the scaling down of the original plans have distorted the building's external appearance, thus throwing the haunches of the dome into prominence, it seems more likely that, having accepted the need for a lack of coordination between the dome and transepts, Petre made no attempt to disguise the shoulders with either a higher roof line or sculptural ornamentation. Instead, his engineering mentality has predominated in a display of his skill with concrete and mass, which is unsheathed in the functionalist manner which became popular in later nineteenth-century Europe.

Having recognised each elevation as presenting a most impressive visual statement in its own right, the western entrance facade remains to be acknowledged as the cathedral's most dramatic and original creation. In this facade Petre has made his own contribution to the problem of designing church facades and, because he had designed

such impressive side elevations, the chief elements of which were taken from classical temples, the problem was greater than in any of his previous basilicas. His solution combines traditional elements - flanking towers, an upper balustrade, columns and a portico - in a most unusual manner.

The two towers are the most traditional elements, having been associated with church facades from Romanesque and Gothic times. The superimposition of domes was a more recent innovation which had become popular in ecclesiastical architecture from the seventeenth century, the most recent example
|31| being Léon Vaudoyer's Cathedral in Marseilles (1845, 1852-93). Indeed, so similar are the pedimented frontal towers and main domes of these two cathedrals that it seems likely Petre had been stimulated by this most publicised building.[32] The tower's rich sculptural detail and division into three zones is characteristic of late Victorian towers such as Forrester and Lemon's Post Office tower in Oamaru (1883) and Mason's tower on the Dunedin Stock Exchange Building (1864). Here the divisions accurately

32. Vaudoyer's design was first published in 1845 although the building was not begun until 1852. The design was published in many building and Catholic periodicals and Petre could not fail to have been aware of it.

reflect their interior as do the three doors and clerestorey in the terminal wall of the nave.

However, the relationship thus established between the interior and exterior is disturbed by the entrance portico itself. Petre has completely rejected the classical temple motif in favour of the combination of columns, entablature and balustrade which had been adopted in the French neoclassical church, St Sulpice.[33] By recessing the portico between the two flanking towers in the fashion established by Wren's St Paul's (1675-1710), Petre achieved a cohesion his previous classical facades had lacked; at the same time providing his church with a sheltered entrance, so important in this the south western facade. The facade is dominated by the four monumental Corinthian columns which support the upper balustrade. Although columns of similar proportions were used in the entrance to St Patrick's, Oamaru, the lack of a pediment on the Cathedral of the Blessed Sacrament accentuates their vertical values to achieve a more awe-inspiring effect. This has been accentuated by the scaling of the design which destroyed the former balance between horizontality and verticality by reducing the spaces between

33. The facade of St Sulpice is somewhat fortuitious, Servandoni's original pediment, which was damaged by lightning, having been replaced by the balustrade by Oudot de Maclaurin. See Braham: The Architecture of The French Enlightenment Op. cit., p. 136

the columns. Nevertheless, the vertical values would have continued to dominate the planned church. Had Petre reflected the internal division of the nave in a two storeyed facade similar to both St Paul's and St Sulpice his building would have appeared much smaller and less significant. In addition, he would have lost that deliberate upward attraction by which the viewer's eye is forced upwards, past the words "Ecce tabernaculum Dei cum Hominibus" in the frieze and the sculptured tabernacle on the balustrade to the heavens beyond. At the expense of a clear relationship between the interior and exterior of his church, a relationship which had never been a major concern to Petre, the architect created a highly original facade which embodied the cathedral's need for architectural grandeur and spirituality.

Indeed each of Petre's cathedral designs embodies the dignity and associationism needed in a cathedral. Each had the potential to dominate its city with an exterior which was indubitably Catholic and therefore symbolic of that religion's political and legal equality in New Zealand. While St Joseph's can be seen as the idealistic dream of a young architect not yet fully aware of the economic stringencies of colonial building, Petre's later two cathedrals are designed with New Zealand conditions and resources in mind. Having established his concrete basilica as the design most suited to the needs and

finances of a large New Zealand parish, Petre realised it was also the most suited to the purposes of a cathedral. His major problem was that of developing an architectural style with which to dress his functional structure. While the solution used in the Wellington design is to a large extent dependant on the Cathedral of Westminster, the exterior of Christchurch Cathedral is his own contribution. Although it was common to decorate a basilica with a central dome and two domed towers, Petre's combination of colonnades, entablature, balustrade and other elements is peculiar to the Cathedral of the Blessed Sacrament. In certain areas, notably the primitivism of the articulation of the dome, the combination fails and the building reveals the awkwardness of an over-ambitious colonial. Nevertheless the overall impression is majestic and uplifting while its distant silhouette is as evocative of Italy and France as Petre desired.

While the success of the interior of Wellington Cathedral must remain speculative that of Christchurch Cathedral is unquestioned. It is both functional and dramatic; its brightly lit sanctuary conveying that air of spirituality which others sought to convey in elaborate altars, statues or stained glass. Less original than the exterior, and more orthodox, the interior must be recognised as one of New Zealand's finest architecturally

created spaces. The fact that it was his last columned or arcaded interior suggests that Petre, who was intensely proud of this cathedral, regarded it as the culmination of his classical works. Henceforth he continued to draw on the Byzantine-Romanesque inspiration of Westminster Cathedral, in a series of churches which develops from his design for Wellington Cathedral, rather than that of the Cathedral of the Blessed Sacrament.

CHAPTER V

THE LAST CHURCHES

The churches which Petre designed after the turn of the century are less interesting than his earlier basilicas although their plans continue to exhibit his characteristic interest in stylistic experimentation. Only two of these churches - St Patrick's, Waimate (1909) and the Church of the Blessed Sacrament, Gore (1914) - come within our definition of basilica. However, St Mary's, Invercargill, (1905) and the Church of the Sacred Heart, Timaru (1911) are closely related to them and thus deserve a place in this present study. In spite of the architectural variations in these churches, as a whole they are less interesting than his earlier works. Petre's declining health prevented him from maintaining his usual standards of supervision so that these designs were even more subject to clerical interference than his earlier works.[1] Only one of the late designs, St Patrick's, Waimate, was completed to his specifications; the church in Gore is incomplete while those in Timaru and Invercargill differ from his original plans. Consequently, as only one of

1. As mentioned in Chapter One, Miss Margaret Petre describes her father as having suffered ill-health from the 1890's.

Petre's late churches can be regarded as an accurate example of his work, the group merits only cursory discussion.

The longitudinal plan adopted in Petre's previous basilicas was repeated only in Waimate. Both the Timaru and Gore churches were designed as Latin crosses, while St Mary's, Invercargill, was in the form of a Greek cross. This does not imply that he was dissatisfied with the plans of his previous basilicas; instead the popular approval with which all his major works after Oamaru had been received encouraged him to introduce

> "a distinct new departure in Catholic architecture here |in New Zealand|".[2]

In fact, as is evidenced by his article in the New Zealand Tablet describing his plans for Invercargill, Petre was still concerned with developing plans which suited New Zealand conditions. He believed that a cruciform plan, with the subsidary altars accommodated in the transepts, could be found as suitable as his longitudinal basilicas,

> "as a great effect and complete accommodation can be got for very much less outlay".[3]

Although Petre used a different floor plan for each of his last churches all four represent the continued influence

2. New Zealand Tablet, 19.5.1904, p. 4

3. Ibid

of the Cathedral of Westminster. Petre described this as "the Byzantine style" and its influence is apparent in the red and white decoration and arched windows of these designs.[4] Petre's interpretation of the Byzantine style was extremely wide as is indicated by the contrasting exteriors presented by each church.

Nevertheless, in spite of such stylistic variations, the construction of the late churches continued to depend on principles established in Petre's earlier works. All are built in his usual material, reinforced concrete sheathed in brick, and all make full use of modern components such as standard iron window frames and zinc ceiling panels. The interior of each church has adhered to the usual relationship between sanctuary, nave and choir loft, the principle aim being to provide the congregation with unimpeded view and access to the communion area. In his exterior elevations Petre has continued to place considerations of overall effect and maximum visibility ahead of harmonious composition and clearly related parts.

4. Ibid.

|32| St Patrick's, Waimate, the most notable of these churches, exhibits these characteristics. Not only does it provide a small congregation with an impressive and dignified church but it also has a dramatic silhouette visible for many miles. Petre's interest in dramatic silhouettes, which is apparent in all his churches, has been best served by Waimate. St Patrick's copper dome,when seen at a distance against the Hunters' Hills,is highly evocative of an Italianate landscape in the best Picturesque traditions. Unfortunately the allusion is somewhat reduced on close examination, for the exterior reveals neither the classical restraint nor the baroque exuberance usually associated with Italian churches. It is in fact an awkward mixture of Romanesque and Renaissance features. While the side elevations are merely a more refined version of those seen in Sacred Heart, Wellington, both the sanctuary and entrance ends have been considerably altered. At the sanctuary the sacristies were sited to one side to enable the fenestration of the apse and thus allow light to fall on the altar. The result is pleasing externally as well as internally and was therefore repeated at both Timaru and Gore.

The entrance facade is both unprecedented and remarkable. A simple, Renaissance style, arcaded

portico gives entrance to the three panelled doors. The arcades are separated by three monumental Tuscan pilasters from which spring three relieved arches to house the central rose and two arched windows which light the choir. The roof is finished with a pediment flanked by balustrading. The whole facade is dominated by a louvred and domed central tower. Central towers were common in classical church architecture, however the articulation of this tower, which is not combined with a temple front, is most unusual. The result is an astonishing mixture of classical elements, the arrangement of which is highly unorthodox. Yet, although the monumentality of the four giant pilasters is quite at variance with the fine arches they support, the need to suggest support for the central tower allows the facade greater success than was achieved in any of his other contemporary churches.

The success of Waimate, which is continued in its brightly lit, restrained interior, renders the failure of his other three Byzantine influenced
|33| churches more acute.[5] The surviving plans for St Mary's, Invercargill, indicate that this church should have presented a silhouette which was as arresting and dramatic as St Patrick's, Waimate, but no less awkward.

5. Miss Margaret Petre describes her father as "most proud of Waimate" while he refused to be associated with either the Invercargill or Timaru churches.

The church is of a cruciform shape with "a central space", eleven metres by eleven metres from which extend four arms of equal length to form a cross.[6] The sanctuary is housed in one such arm, opposite the entrance and choir loft, while the flanking arms house the side altars and additional seating.

Petre had intended that the exterior would be dominated by a steeply pitched broach tower, the angles of which would reflect the pediments on each side. Unfortunately the parish priest allowed his contractor, Mr J. Flain, to replace the tower with a dome which destroyed the structural integrity of Petre's design. The dome is said to have been added in imitation of a church in Germany. However the fact that Fr Burke also wanted to extend the church

> "further out to the street,
> with two domes, one at either
> side of the frontage"

suggests Petre's design was rejected because it was not in the traditions of either the Oamaru or Christchurch basilicas.[7] The resulting

6. New Zealand Tablet 19.5.1904, p. 4

7. The Basilica: A Sign of Faith 1905-1980
Craig Printing Co. Ltd., Invercargill 1980

juxtaposition of pediments and dome can only be described as peculiar and not at all within the Romanesque-Byzantine spirit Petre hoped to evoke.

|34| Petre had a similar horror for the Timaru church which also appears to have begun as a cruciform design, similar in plan to that of Invercargill with the addition of a rounded apse.[8] This church was built by voluntary labour under the supervision of the parish priest, Fr Tubman. Petre found him so difficult to work with that he stopped visiting the site.[9] This time the design was altered to accommodate Fr Tubman's recollections of his brother's church in Reno, Nevada, also a domed basilica with two frontal towers.[10] Petre's cruciform has been

8. This was related to me by Miss Margaret Petre. The exterior elevation, by Petre, in the Sacred Heart Presbytery, Timaru, shows the church as it is today. Harper B.: The Harvest, The Timaru Herald Co., 1969 attributes the design to Tubman, acknowledging the plans to have been drawn up by Petre.

9. According to Miss Margaret Petre he sold the plans to Father Tubman and withdrew all interest in the project.

10. The existence of this church and the presence of a Father Tubman as resident priest early this century was confirmed by a tourist friend. Unfortunately I have been unable to verify his evidence with either photographs or an accurate architectural description.

transformed into a Latin cross with the extension of the nave, to which has been attached two domed towers. The resulting church lacks cohesion, elegance and style. Its exterior remains impressive because of its bulk and elevated site from which it dominates the southern aspect of Timaru. The interior is the least satisfactory of any of Petre's designs. The colonnaded apse is poorly related to the remainder of the church and the central dome intrudes upon the longitudinal emphasis of the nave. The heavy foliated plasterwork on the ceiling is most uncharacteristic of Petre and suggests Tubman's interference in the interior was even greater than his external influence. It is unfair to Petre to place too great a consideration on this work.

|35| The last of Petre's churches to show the influence of Westminster Cathedral was the Church of the Blessed Sacrament, Gore. Here Petre returned to the longitudinal basilica with the introduction of small transepts at the sanctuary end. Designed to be built in stages; neither the transepts nor the rounded apse have been built;and the interior, which lacks its proposed sculptural decoration, is somewhat drab and dark. The surviving exterior is, however, very interesting, especially in its dramatic entrance facade. Here Petre has returned to the French tradition of flanking entrance towers. In this case,

however, he has rejected both classical and Gothic types in favour of broach-roofed towers in the Italianate-Romanesque tradition. The towers and the gabled nave present a commanding silhouette which is pleasingly echoed in the louvered openings in the gable. The whole effect is enhanced by the building's white and red brickwork and the bold cement courses which define the interior disposition in a fashion usually ignored by Pete. As a result the whole facade is Romanesque in inspiration and is therefore an interesting development in this series of Westminster-influenced churches.

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The Church of the Blessed Sacrament, Gore, is Petre's last recorded church. It embodies many of the qualities inherent in his ecclesiastical architecture in its combination of a functional yet aesthetic interior with a bold, ornate exterior which is unequivocally Catholic. Throughout Petre's career this had been the major concern of his ecclesiastical works. Strengthened by his own religious faith, he had struggled to provide the relatively small and impoverished Catholic congregations with buildings which were as dignified and ornate

as those being erected by other denominations. His task was often complicated by clerical interference, as well as financial difficulties, so that many of his churches were never completed to his original design. It is apparent from completed buildings, however, that his churches were extremely successful for the performance of the Catholic liturgy. This success was achieved through Petre's reliance on extremely simple floor plans in all his churches, Gothic as well as classical. His customary arrangement of the high altar at the head of the nave flanked by two subsidary altars at the ends of the aisles makes his churches most distinctive.[11] Unlike most New Zealand church architects of the nineteenth century Petre made little use of timber in his churches and his interiors are finished in plaster or Oamaru stone. Consequently the interiors of Petre's churches are very similar in their spatial arrangements and ornamentation. However, although floor plans and ceiling designs have been repeated, Petre never used the same decorative programme more than once.

A major consideration in Petre's ecclesiastical architecture was the external appearance of the church. Throughout his career he experimented with traditional Catholic features ranging from the French Gothic facade of St Joseph's, Dunedin, to the Italianate Romanesque of his

11. The only departure from this arrangement is the Cathedral of the Blessed Sacrament, Christchurch.

last church, the Church of the Blessed Sacrament, Gore, to achieve silhouettes which were dramatic and distinctive. It is an unfortunate consequence of his desire for a bold exterior which was unequivocally Catholic that harmony was frequently sacrificed, as in the articulation of the dome of Christchurch Cathedral. To a large extent this failure can be attributed to his lack of formal education in ecclesiastical architecture. Petre's exteriors are all his own creations in which he combined influences and features remembered from Europe or seen in books. While his failure to integrate these features must be acknowledged, so too his originality must be recognised as an important contribution to church architecture in New Zealand.

While his architectural and engineering training may have been inadequate preparation for Petre's major role as a church architect, it did provide him with the technical skills necessary for the building of large yet economical structures. Petre's use of reinforced concrete and prefabricated components in his churches was a major factor in enabling such large structures as the Cathedral of the Blessed Sacrament to be successfully completed in a very short time. The use of modern techniques in ecclesiastical architecture was not common in the nineteenth century and reveal Petre as a modern thinker, prepared to reject tradition in favour of building practicalities.

Similar techniques were also a feature of his commercial and domestic work and, as discussed in Chapter One, Petre's use of reinforced concrete in these buildings was very progressive. In this he should be regarded as one of the world's first proponents of modern architectural techniques. His belief that reinforced concrete was the building material most suited to New Zealand's conditions anticipated our modern reliance on concrete blocks and pre-stressed concrete. This realisation marks Petre as the most progressive of New Zealand's Victorian architects while the skill with which he used the material, particularly as revealed by his commerical and domestic buildings, reveals him as one of the most refined and creative architects of the period. Unfortunately his lack of ecclesiastical training and the financial restraints inherent in his work for the Catholic church means that the strength of Petre's architecture should not be measured by his ecclesiastical work alone.

In this study I have concentrated on his basilicas because of the interesting solution they present to the problem of providing the infant Catholic Church in New Zealand with a distinctive architecture. While the success of this solution is apparent, the present study has not provided a survey wide enough to allow a full assessment of

Petre's work. This will only be possible after a systematic analysis of the architect's work has been made. Nevertheless the present study has revealed that F.W. Petre is a major New Zealand architect in terms of his output, technical skill and creative abilities. The previous concentration of New Zealand art historical study in the North Island has led to the minimising of Petre's influence on New Zealand architecture. In reality his introduction to New Zealand of modern concrete techniques must be recognised as a formative influence in the development of modern New Zealand architecture.

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The Petre family has been extremely generous in their assistance. While I am grateful to all those who replied to my enquiries, I am especially grateful to Miss Margaret Petre, who discussed her father's career with me, and Mr A.J. Petre of Christchurch, who made available his personal collection of family documents and photographs.

Considerable information has been gained from surviving correspondence between Petre and his clients and from his existing plans and specifications. I am therefore extremely grateful to Mgr J. Harrington of the Cathedral Presbytery, Christchurch, who made available the archives of the Christchurch Diocese and Mr W. Haydon, Building Supervisor in the Dunedin Diocese and Mr E.J. McCoy of Dunedin, both of whom provided me with plans of Petre's Otago churches. In addition Mr McCoy's enthusiasm for

Petre's work and his willingness to share his knowledge have been most appreciated. Professor Simpson's generosity in this regard was also very helpful.

Valuable information has also been supplied by R.H. Kamen, Head of Library Information Services at the British Architectural Library; Professor Phoebe Stanton of the John Hopkins University, Baltimore; Mr V. Gray, the Essex County Archivist and the Principal of Le Collège de Haffreingue, Boulogne, France. Without their assistance research into Petre's life and career outside New Zealand would have been impossible.

The assistance of librarians throughout New Zealand, particularly those in the New Zealand Room of the Canterbury Public Library, the library of the Canterbury Museum, the Hocken Library in Dunedin, the New Zealand Collection of the Dunedin Public Library, the Alexander Turnbull Library, the Early Settlers' Museum in Dunedin and the library of the Holy Cross College Mosgiel, made the task of uncovering Petre's work and opinions less complex. The information supplied from the Sheppard Collection in the Auckland School of Architecture provided the basis for the list of Petre's works.

I must also express my gratitude to the clergy of the Roman Catholic Church who answered my letters, gave me access to their churches and helped me with my investigations.

As the churches themselves provided the major source for my work the help of these peopls has been especially appreciated.

Finally the work of my typist and the Photographic Department of the University of Canterbury have made the final preparation of this work much easier than I had envisaged.

BIBLIOGRAPHY

The Bibliography has been organised into two sections. Section One refers to New Zealand material of importance to Petre and his works. Section two contains references to the international architecture and Catholic background to Petre's work.

SECTION ONE : NEW ZEALAND SOURCES

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Archives of the Christchurch Diocese
- letters, plans and specifications concerning the building of the Cathedral of the Blessed Sacrament 1898-1906

Archives of the Dunedin Diocese
- plans of various Otago churches, at present in the possession of Mr E.J. McCoy, Dunedin

Letters and Papers in the collection of
Mr A.J. Petre, Christchurch

Sacred Heart Presbytery, Timaru
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APPENDIX

WORKS KNOWN TO BE DESIGNED BY F.W. PETRE

(i) Churches

1877	St Mary's Star of the Sea	Port Chalmers
1878	St Patrick's School/Chapel	South Dunedin
1879-1894	St Patrick's Basilica	South Dunedin
1879-1886	St Joseph's Cathedral	Dunedin
1880	A Chapel at Opihir	
1881	St Thomas's	Winton
1885	A church in the Hakataramea Valley	
1886	Mt Magdalene Chapel	Christchurch
1887	St Leonard of Port Maurice	
1888-1906	St Patrick's	Greymouth
1889-1901	The Basilica of the Sacred Heart	Wellington
1891	Sacred Heart Church	North East Valley
1892	St Patrick's	Lawrence
1895	St Brigid's	Waitati
1893-1903	The Basilica of St Patrick	Oamaru
1898	St Joseph's	Queenstown
1898	St Joseph's	Morven
1900	St Mary's Cathedral	Wellington
1901-1905	The Cathedral of the Blessed Sacrament	Christchurch
1901	Dominican Convent Chapel	Oamaru
1905	St Mary's	Invercargill

1909	Church of the Irish Martyrs	Cromwell
1910	The Basilica of the Sacred Heart	Timaru
1913	St Patrick's	Waimate
1914	Church of the Blessed Sacrament	Gore
	Church of the Holy Name	Ashburton
	Also a Catholic church for Windsor	

(ii) Other Works for the Catholic Church

1877	Dominican Convent	Dunedin
1881	"Notre Dame des Missions"	Christchurch
1883	Presbytery	Port Chalmers
1886-1888	Mt Magdala Asylum	Christchurch
1894	St Joseph's Hall	Dunedin
1894	The Moran Institute	Dunedin
1896	Lawrence church - additions	
1898	St Patrick's Hall	Lawrence
1898	St Patrick's Institute	Dunedin
1898	St Joseph's Convent	Queenstown
1900	Dominican Convent	Oamaru
	Moran Memorial Chapel	
	Bishop's Mausoleum, South Cemetery	Dunedin

(iii) Engineering Works

1872-1875	Dunedin - Clutha Railway Line	
c1875	Drainage of Henley Swamp	
	St Clair Bathing Pool	Dunedin

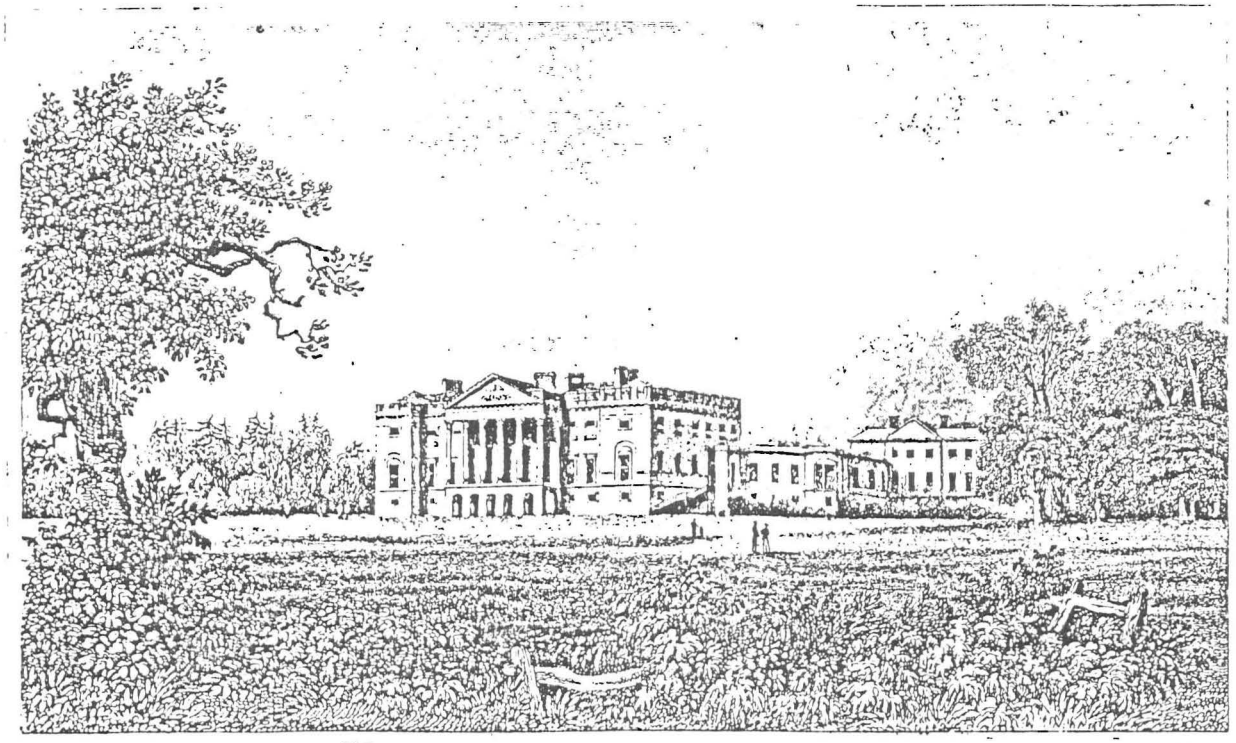
(iv) Commercial Premises

late 1870s	John Reid and Sons premises	Dunedin
"	Murray Roberts & Co	Dunedin
	Phoenix House	Dunedin
	Chamber of Commerce	Dunedin
	Old Harbour Board Offices	Dunedin
1886	A.M.P. Building	Dunedin
	A.M.P. Building	Christchurch
	Lewis and Gould Building	Christchurch
	Fletcher, Humphries Building	Christchurch
1891	Reefton Grandstand	
1908	Alterations to the Waimate Council Chambers	

(v) Domestic Buildings

1875	Chapman House (Castlamore)	Dunedin
1878	House and stables for Charles Berwick	Lake Waipori
	Houses for Mr Shields, Mr Kirkcaldy	
1885	6 Row Houses, Jones St.	Dunedin
	The Cliffs (Cargill's Castle)	Dunedin
	Joachims House	Mornington
	Writtle House	St Clair
	Springfield House	St Clair
	Pinner House	St Clair
	Braemor House	

ILLUSTRATIONS

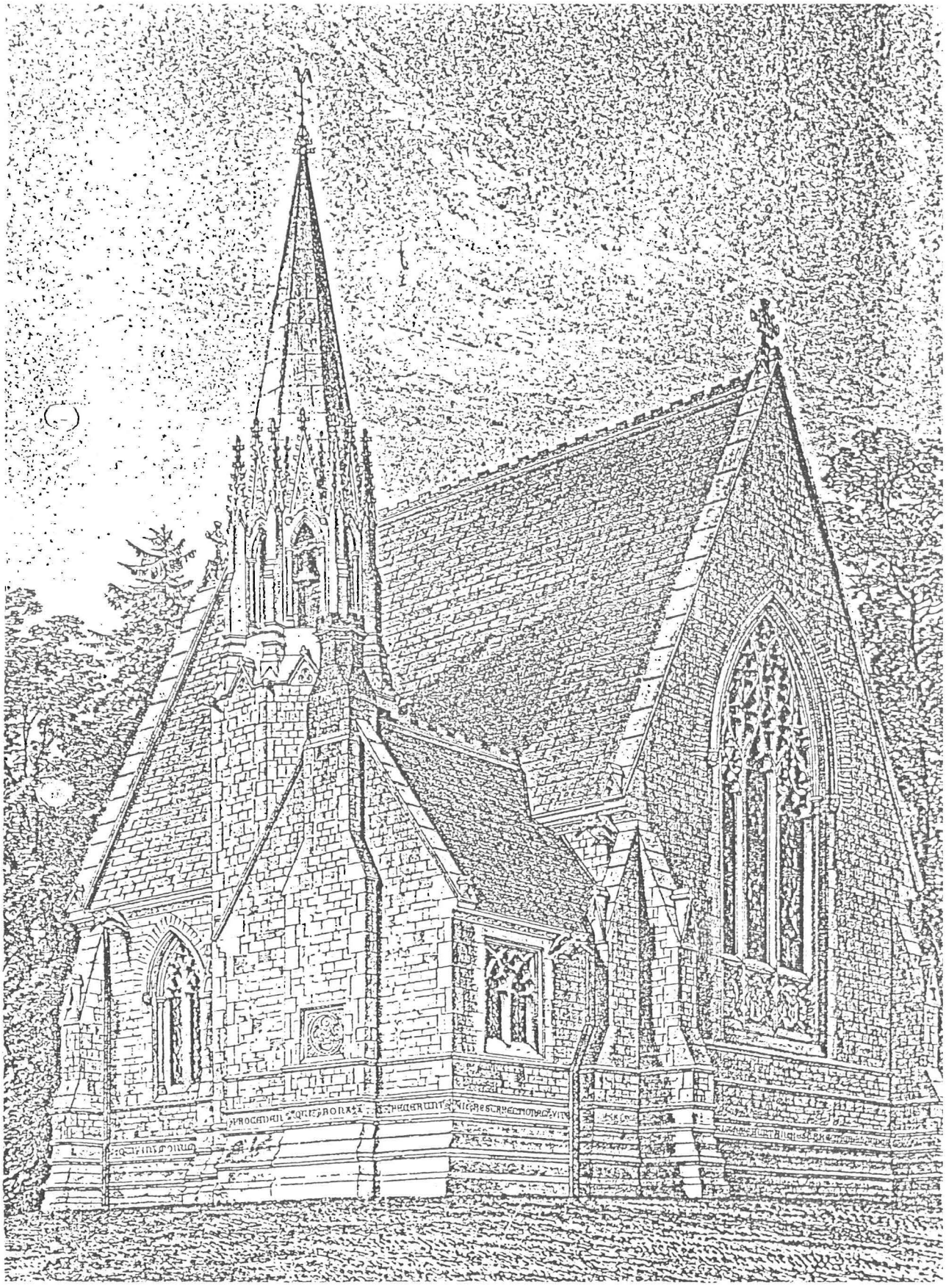


THORNDON HALL, ESSEX.
THE SEAT OF LORD PETRE

Engraved by H. Adlard

Published 1831, by Geo. Virtue 26, Ivy Lane.

1. Architect: James Paine.

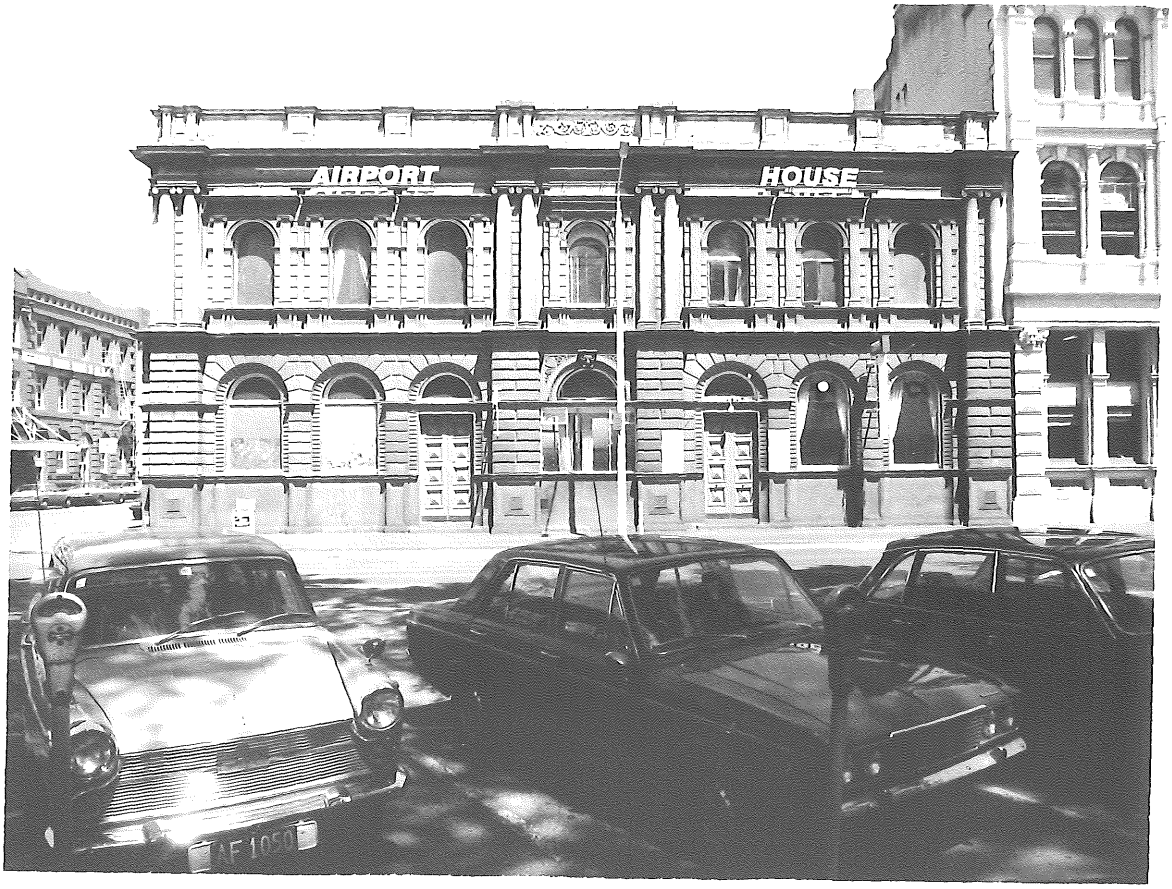


2. The Petre Chapel, Thorndon Hall, Essex.
Attributed to the Pugin family.

3. Ingatestone Hall, Essex.
Architect not known.

4. Chapman House, Dunedin

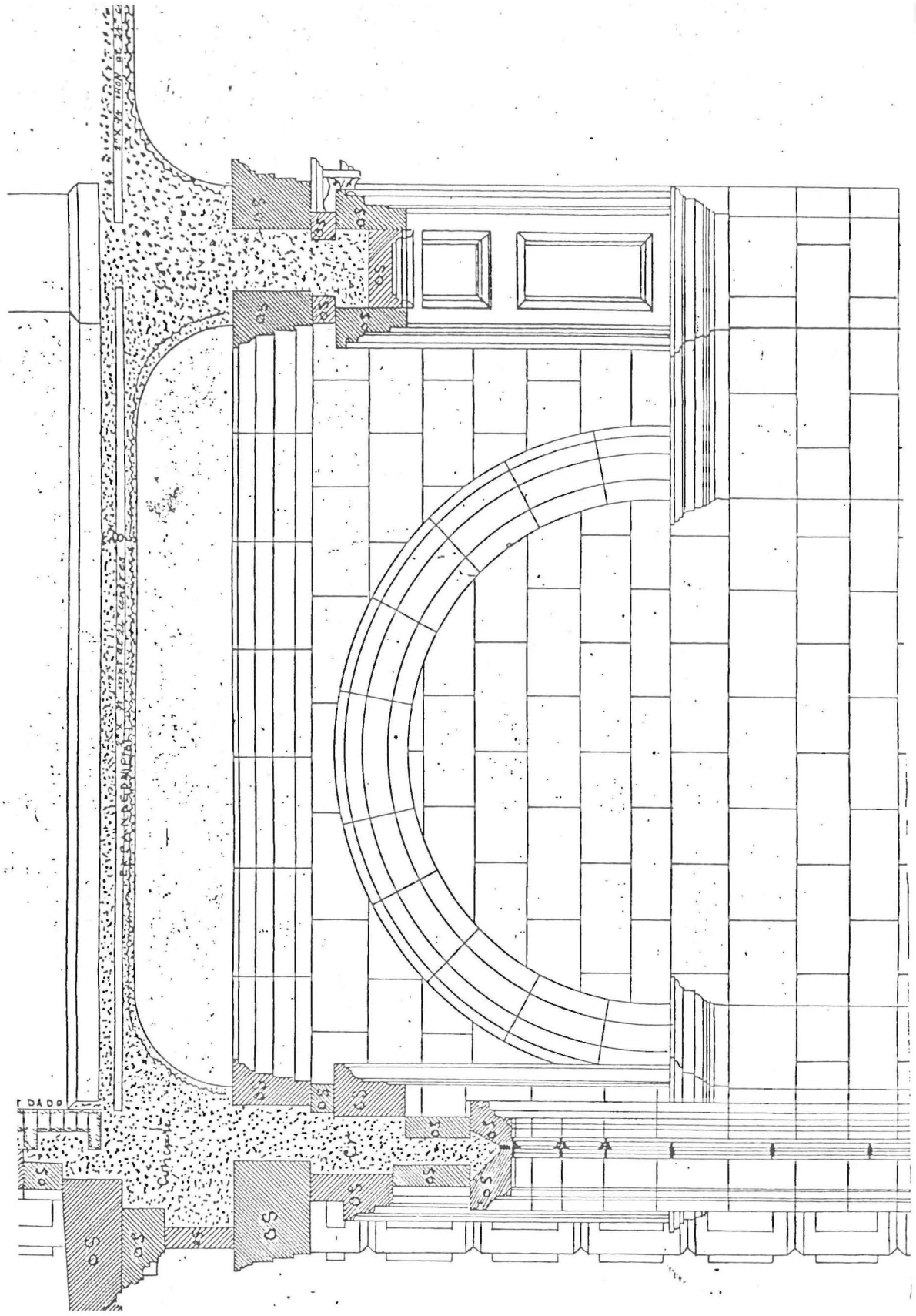
5. Pinner House, Dunedin



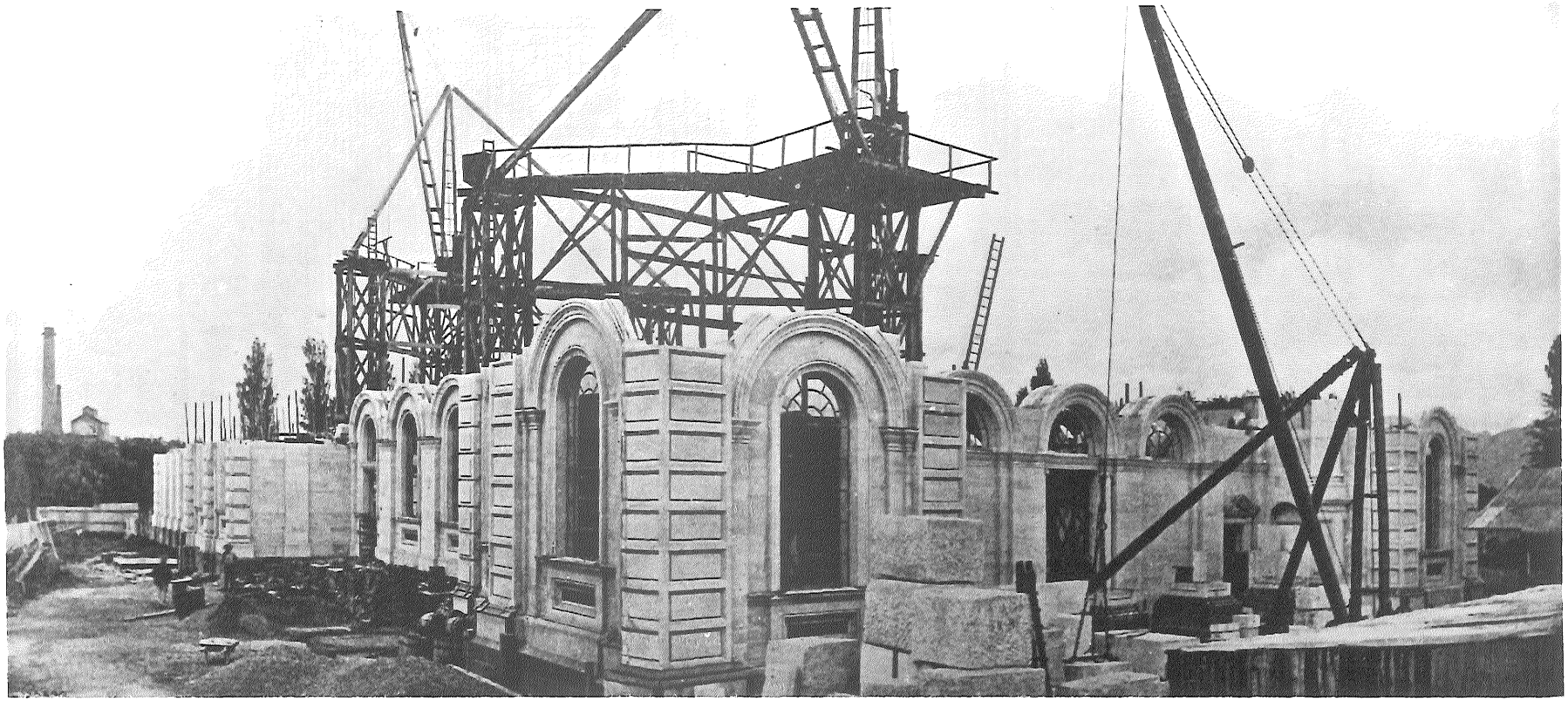
Airport House, Dunedin

7. The Dominican Convent, Dunedin

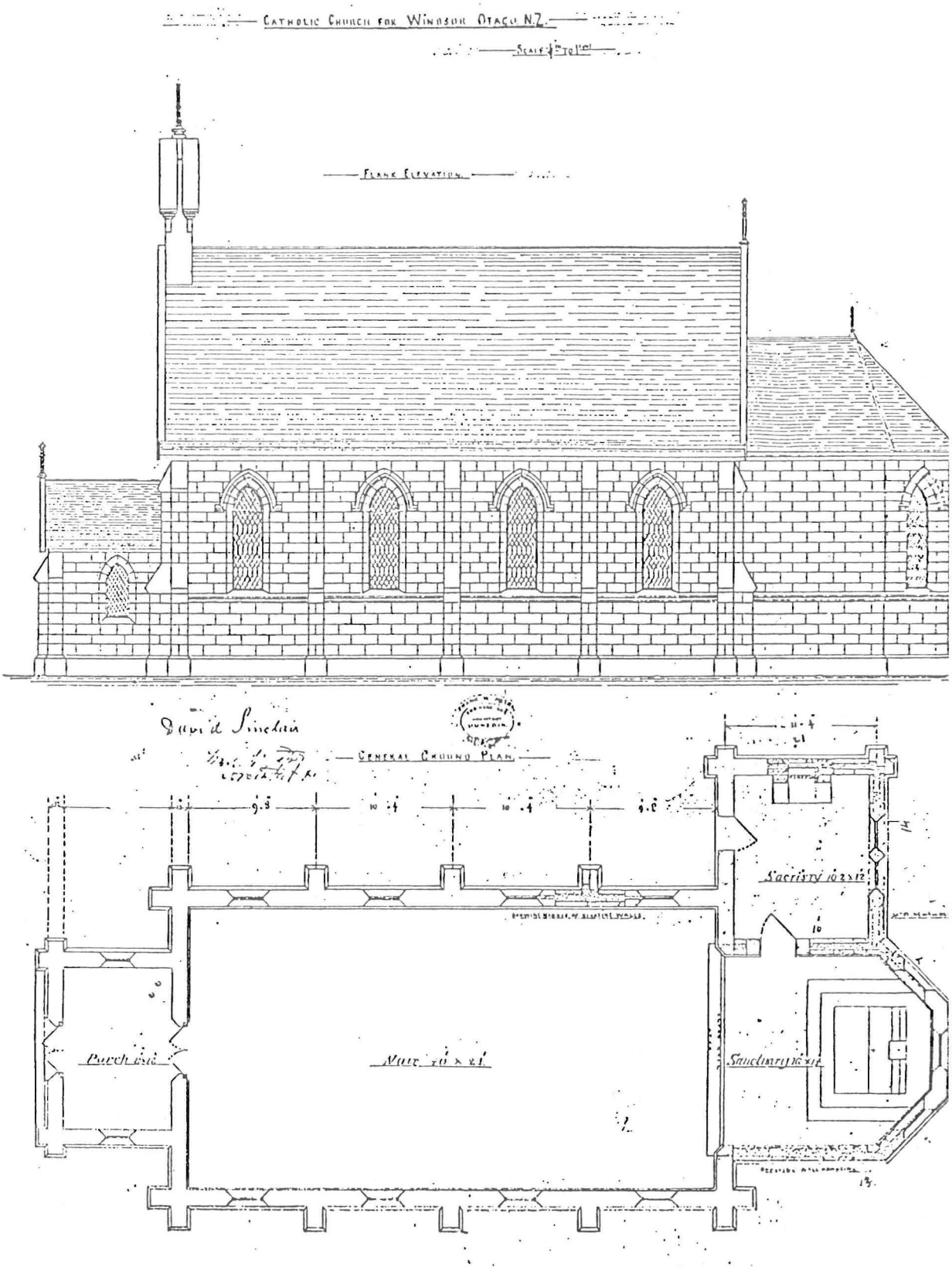
8. The Church of the Sacred Heart, North East Valley, Dunedin.



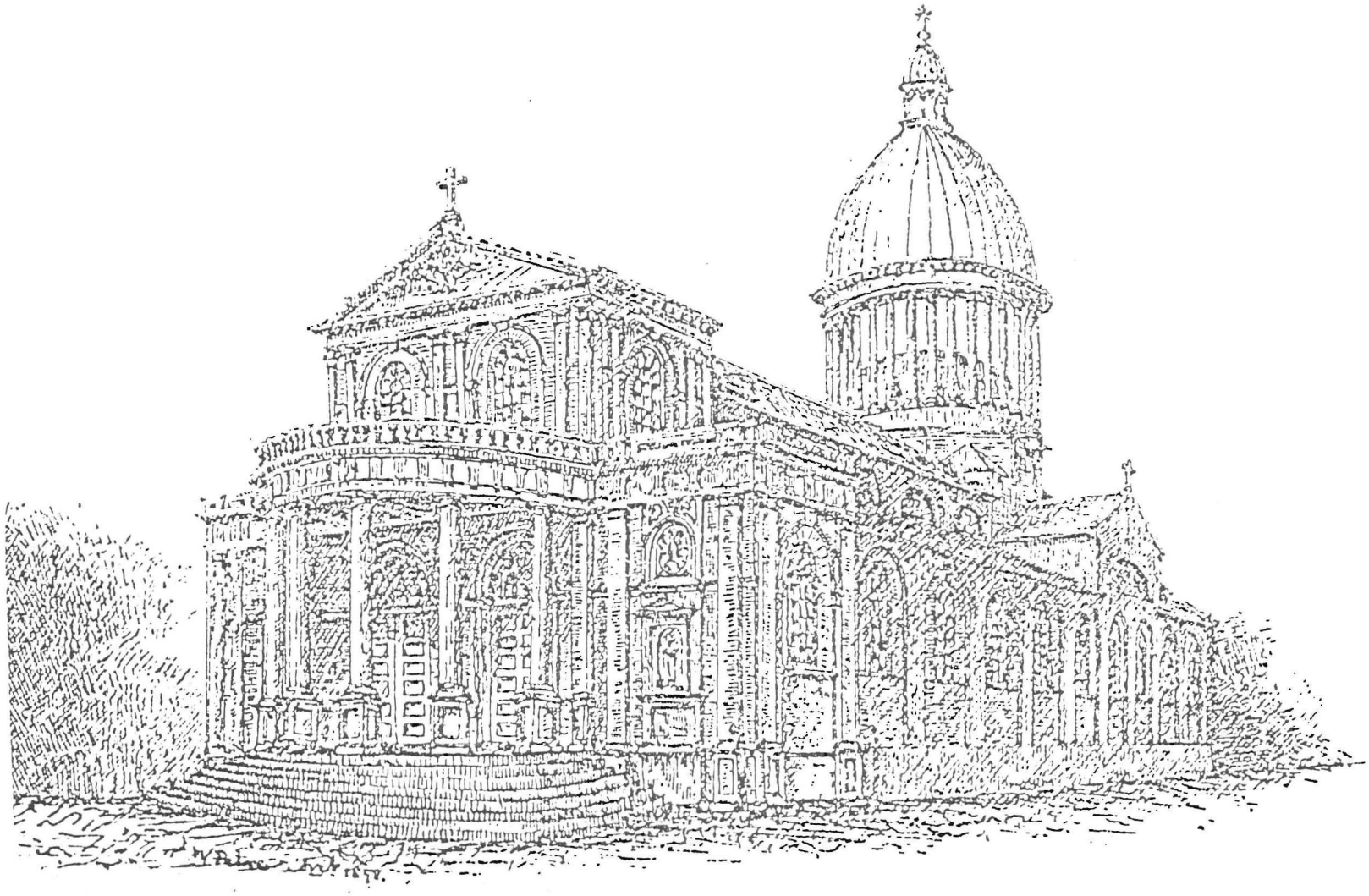
9 (a) Part of the plans for the Cathedral of the Blessed Sacrament, Christchurch, to show Petre's use of concrete.



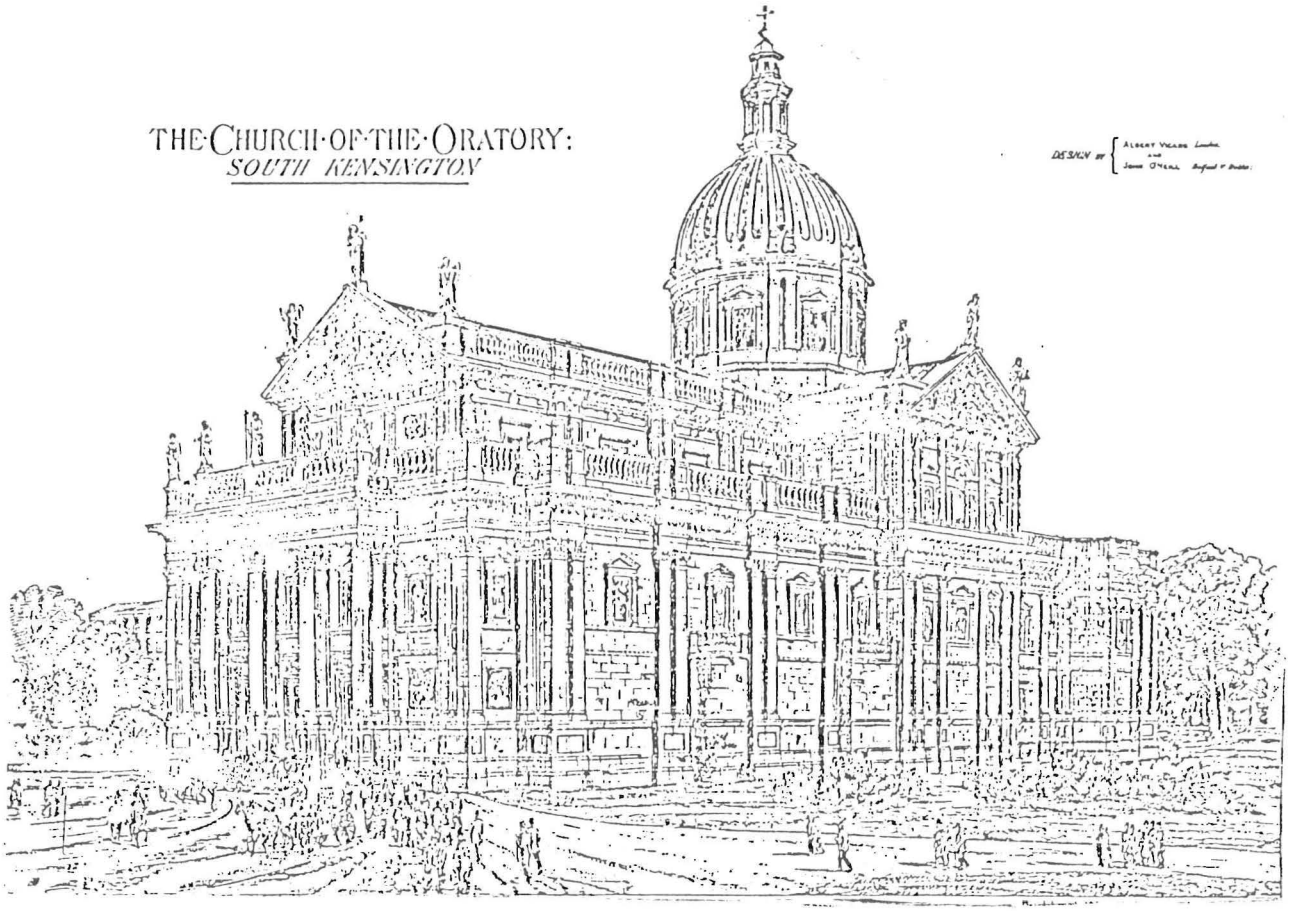
9 (b) Work in progress on the Cathedral of the Blessed Sacrament, Christchurch.

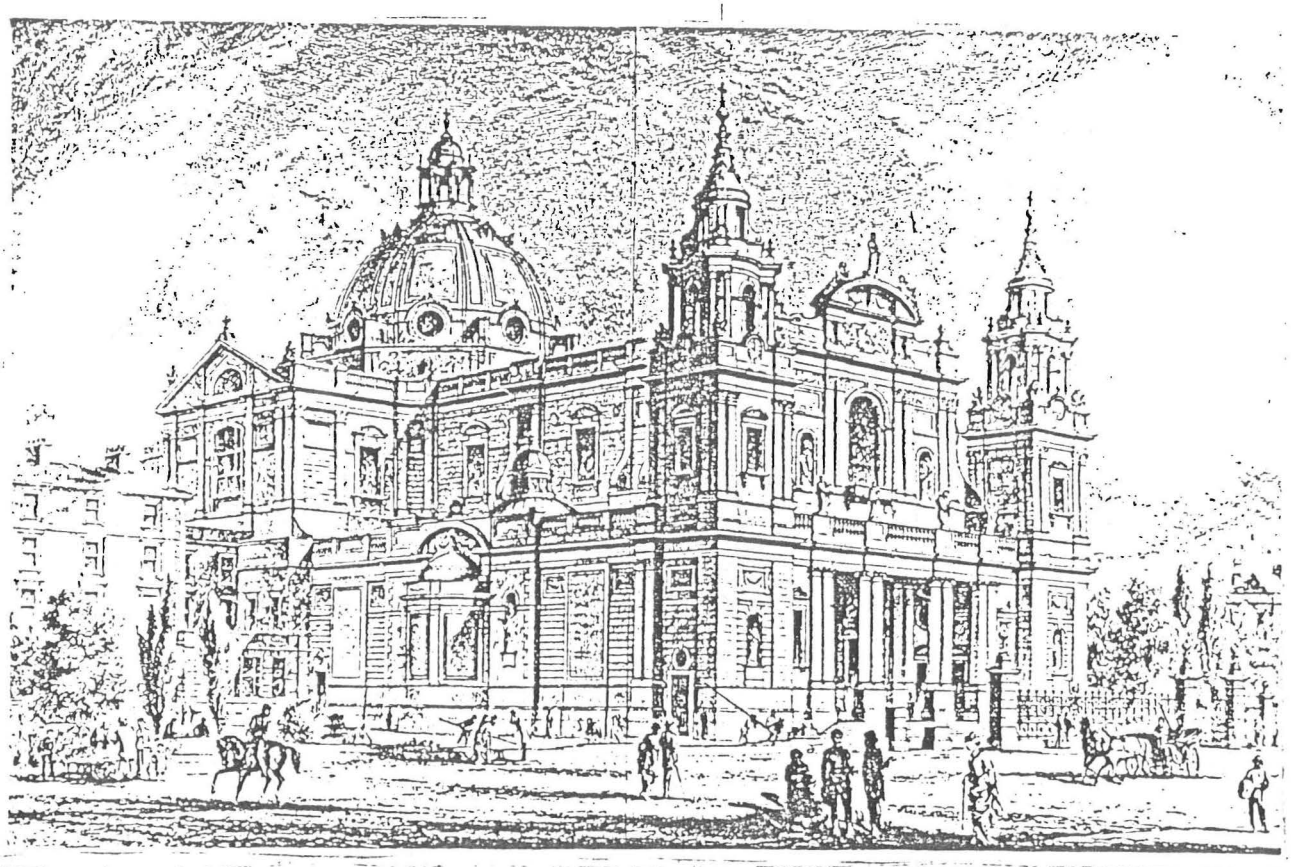


10. The Plan for the Catholic Church at Windsor.



11. The original design for St. Patrick's Basilica, South Dunedin.



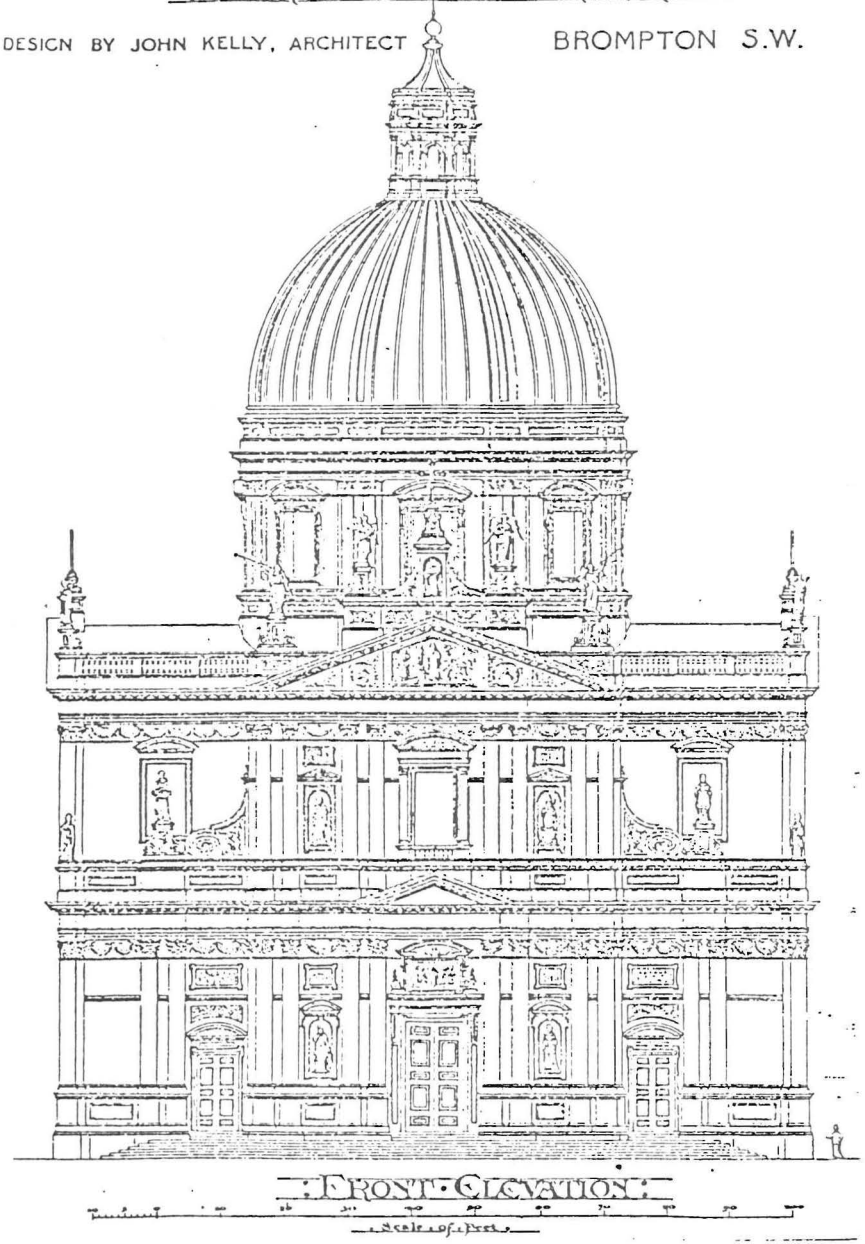


the design of Herbert Gribble.

12. Some designs published in the London Building News of entries in the Brompton Oratory Competition.

CHURCH OF THE ORATORY

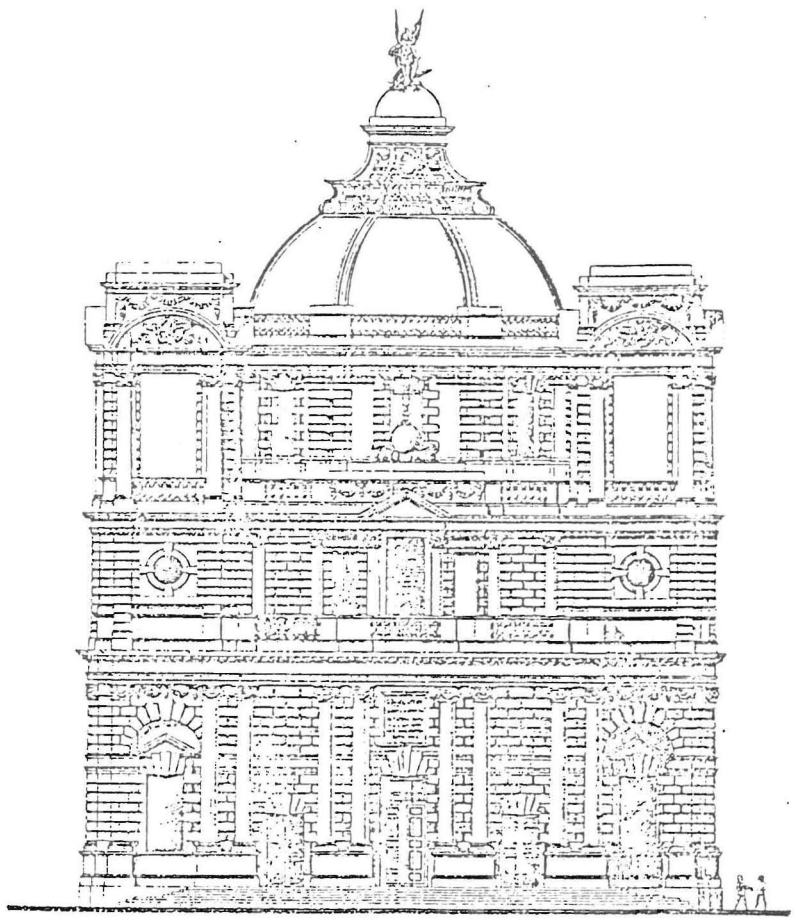
DESIGN BY JOHN KELLY, ARCHITECT BROMPTON S.W.



FROST ELEVATION

Scale of Feet

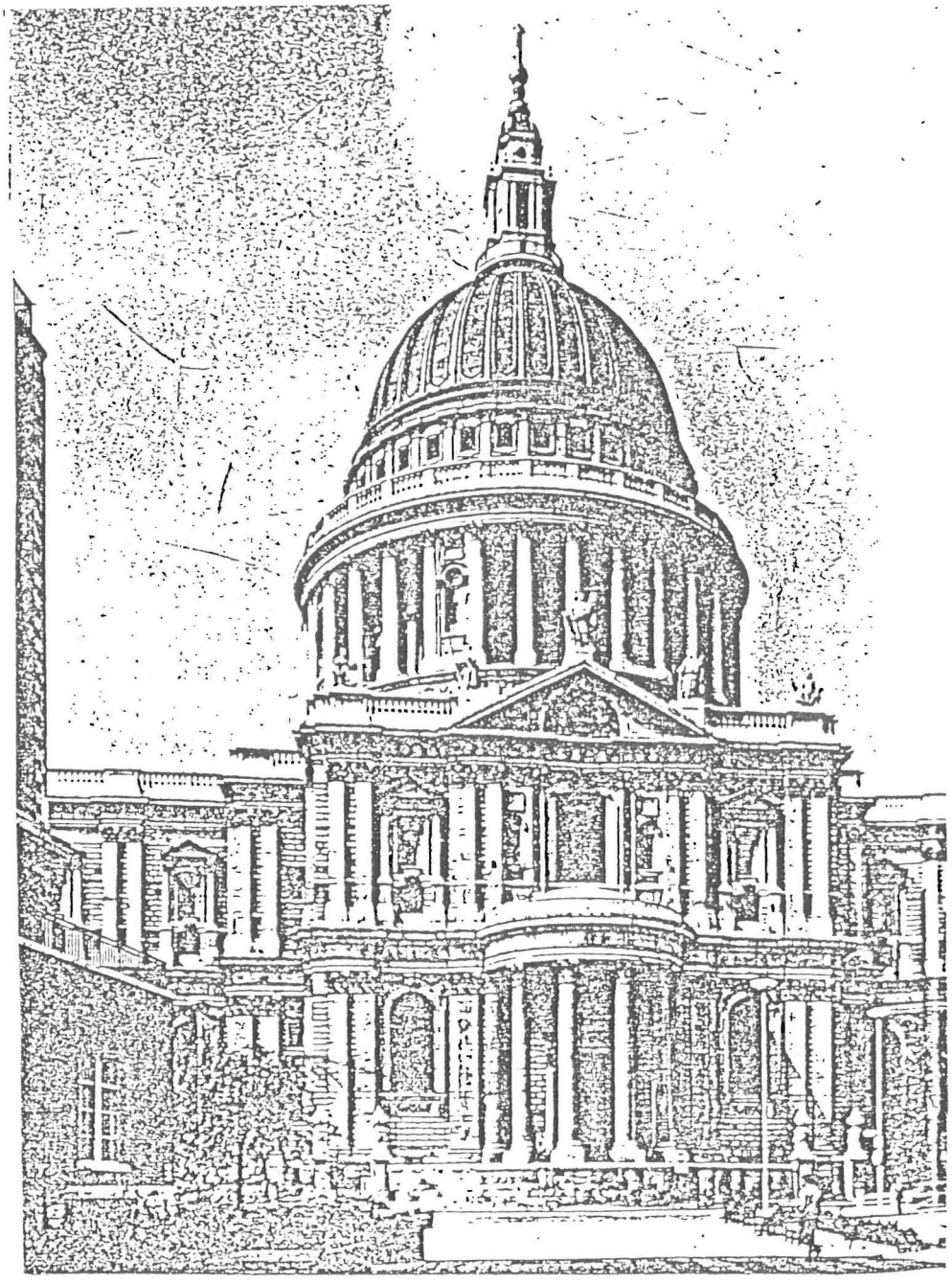
MR H. CLUTTON'S DESIGN "JANUA COELI"



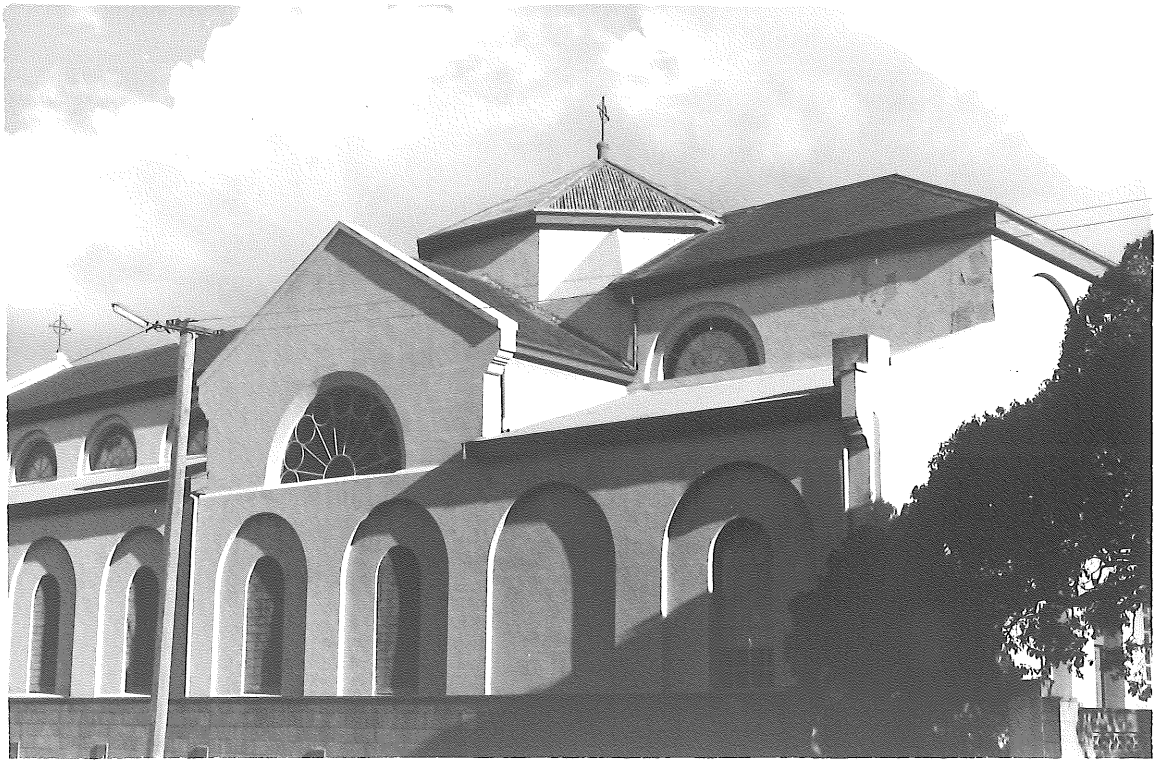
FRONT ELEVATION

Scale of Feet

PROPOSED NEW CHURCH OF THE ORATORY BROMPTON S.W.?



13. The South Transept of St. Paul's, London.
Architect: Sir Christopher Wren.



14. St. Patrick's Basilica, South Dunedin. Exterior view of the sanctuary and northern aisle.

15. St. Patrick's Basilica, South Dunedin. Interior.

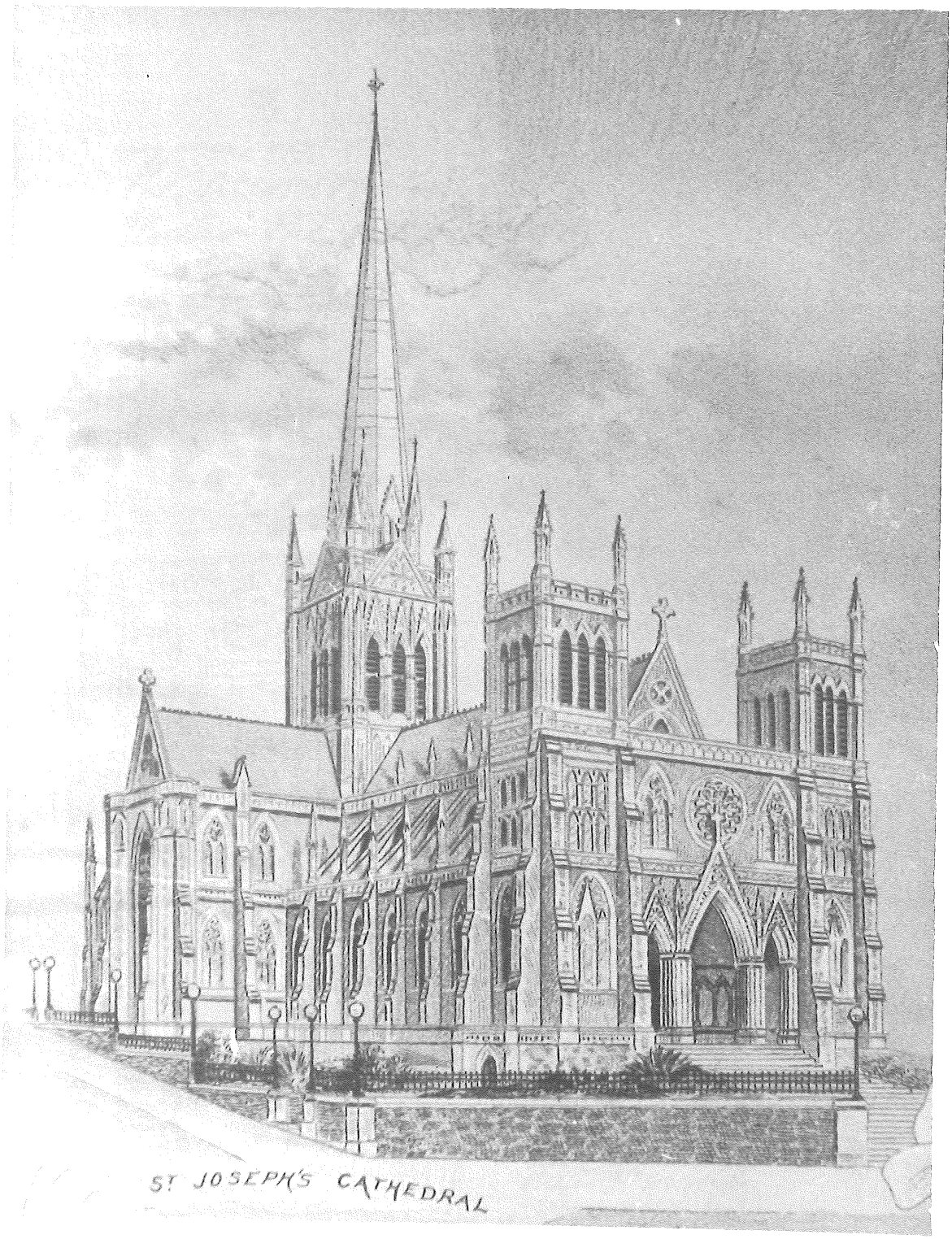
16. St. Patrick's Basilica, Oamaru.

17. San Giorgio Maggiore, Venice.
Architect: Andrea Palladio

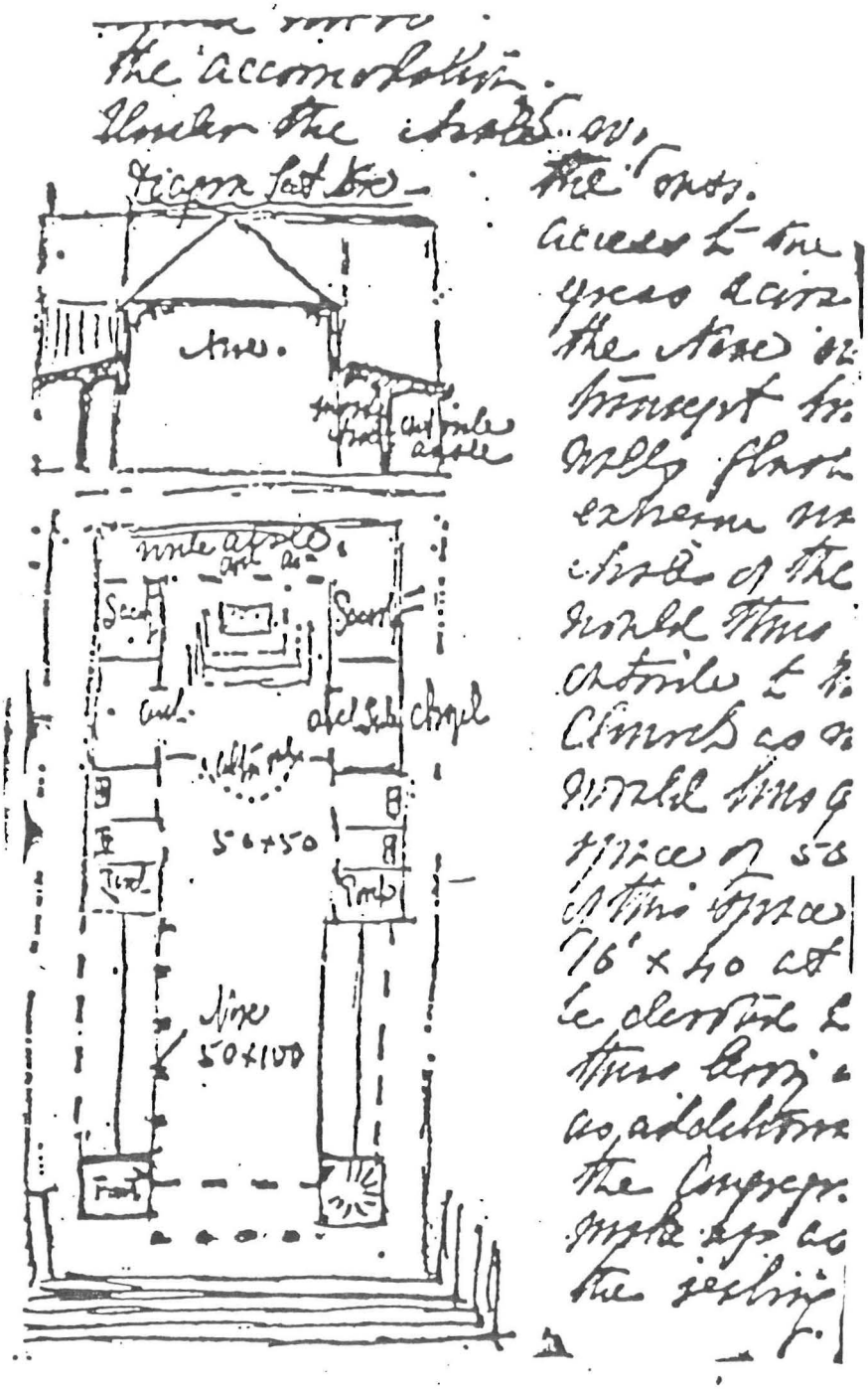
18. St. Patrick's Basilica, Oamaru.
Interior

19. The Basilica of the Sacred Heart, Wellington. The exterior before the removal of the bell towers.

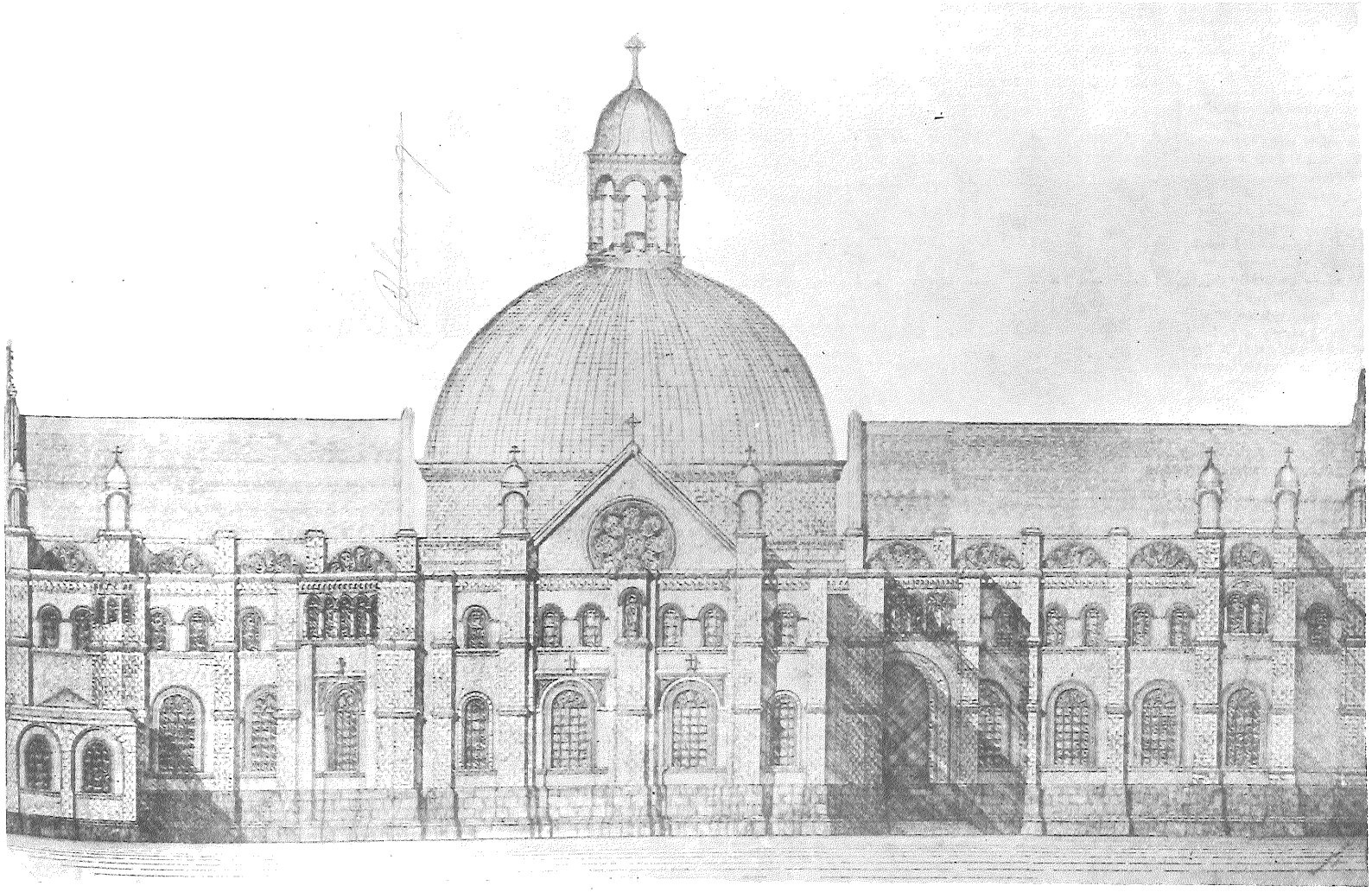
20. Sacred Heart Basilica, Wellington.



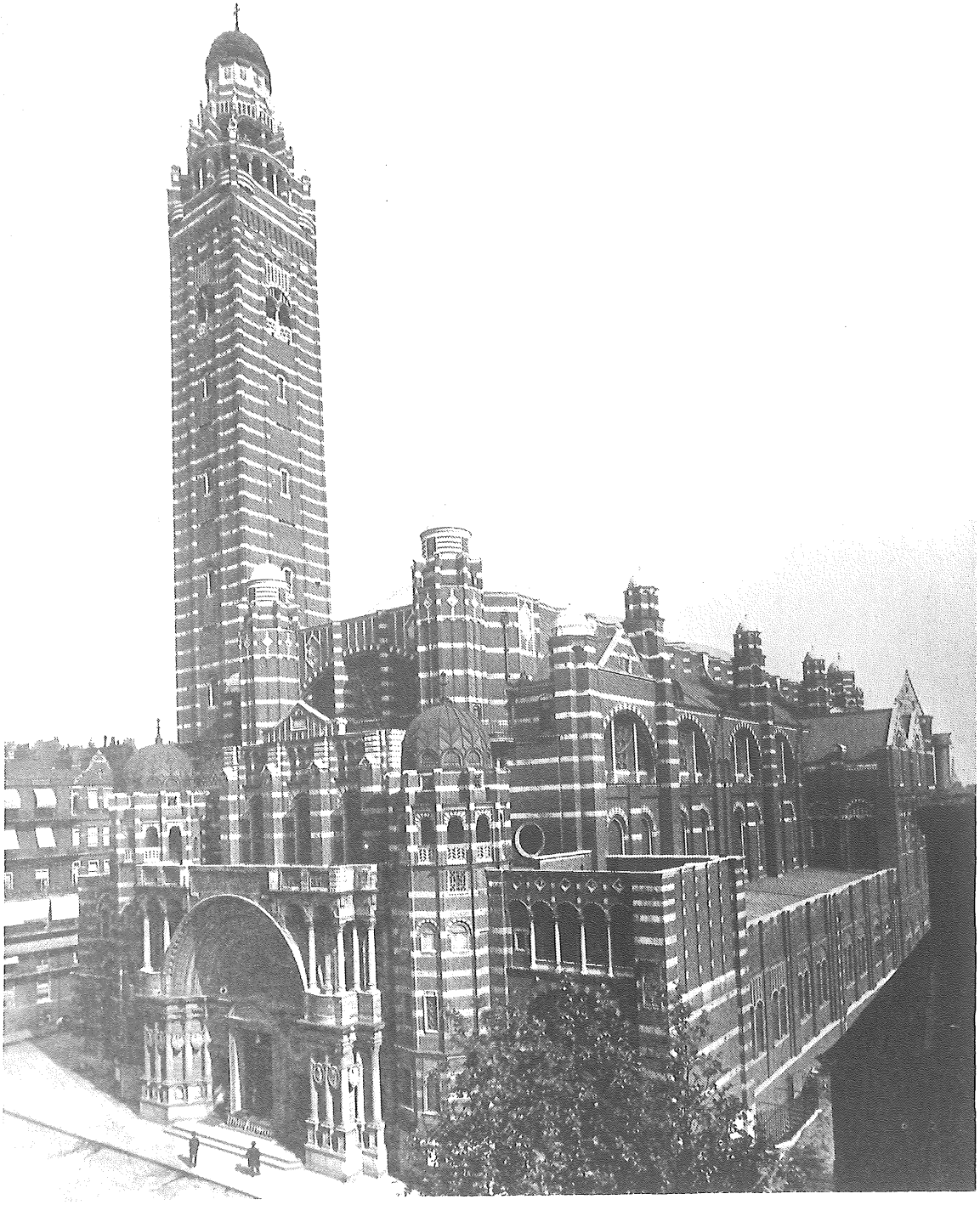
21. The original design for St. Joseph's Cathedral, Dunedin.



22. The first design for the Cathedral of the Blessed Sacrament,



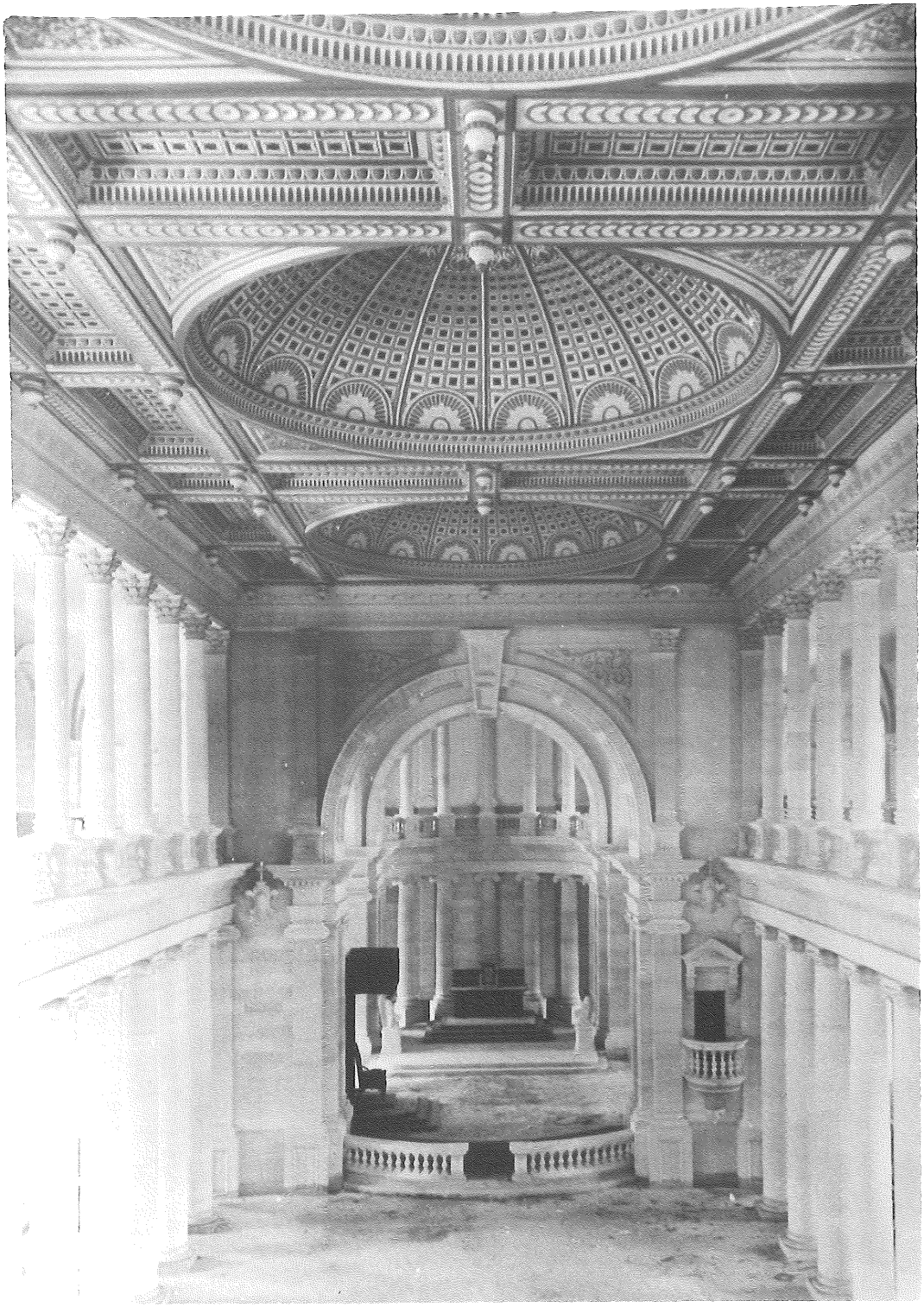
23. The design for St. Mary's Cathedral, Wellington. Side-elevation



24. The Cathedral of Westminster, London.
Architect: J. F. Bentley.

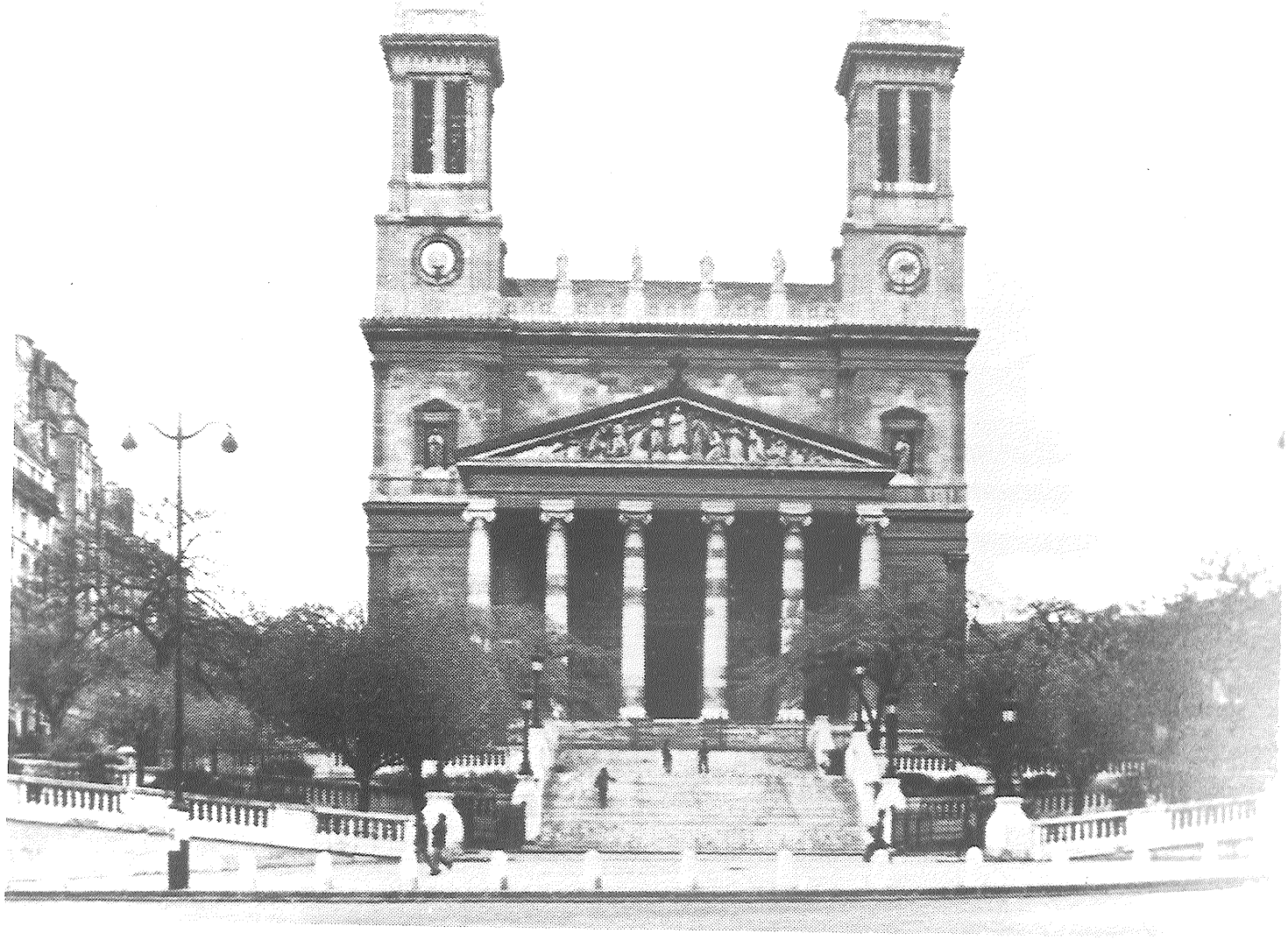
25. The Cathedral of the Blessed Sacrament, Christchurch.

26. Notre Dame de Boulogne, Boulogne-sur-Mer, France.
Architect: Mgr Haffreingue

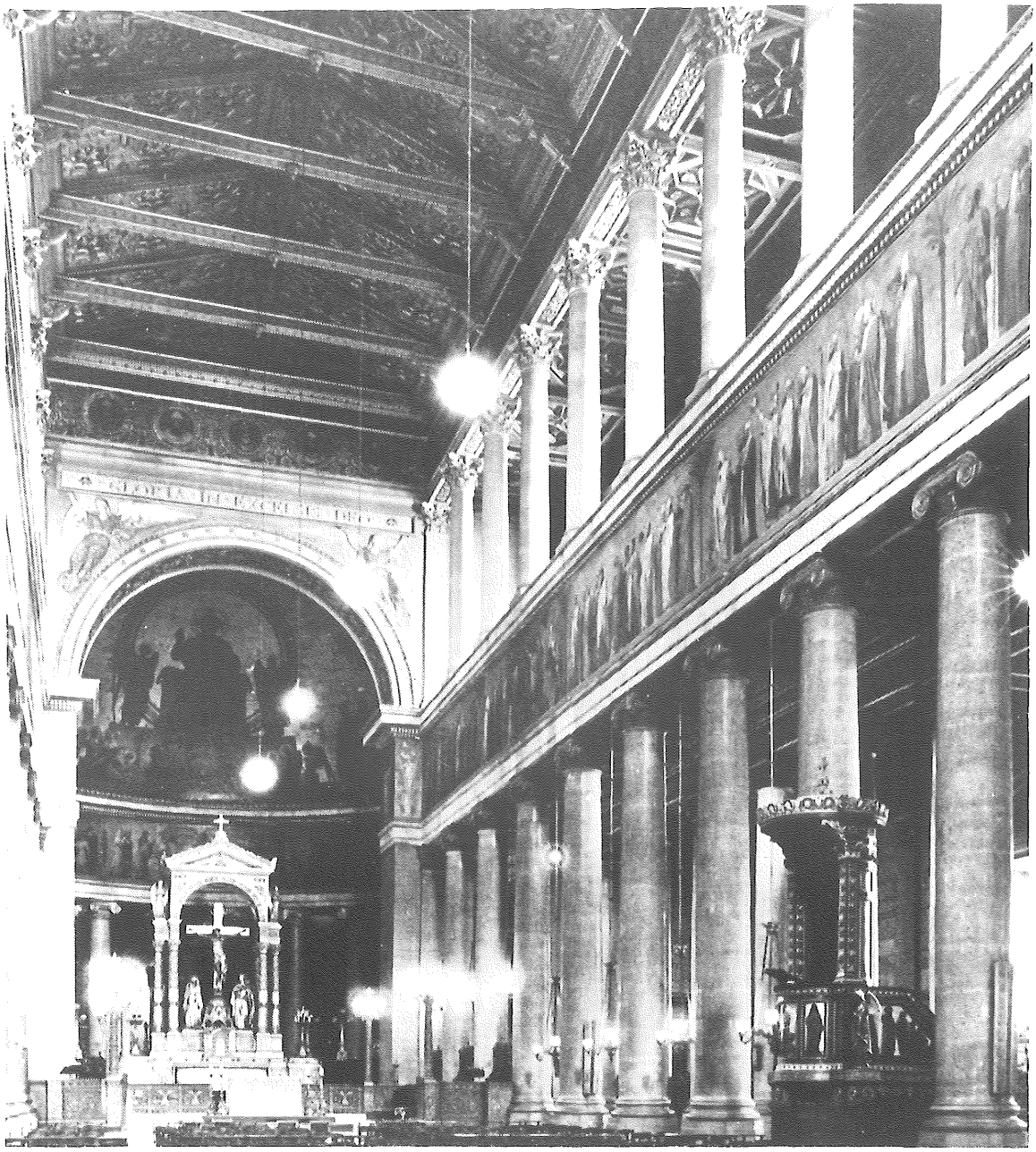


27. The Cathedral of the Blessed Sacrament, Christchurch.
The interior in 1905.

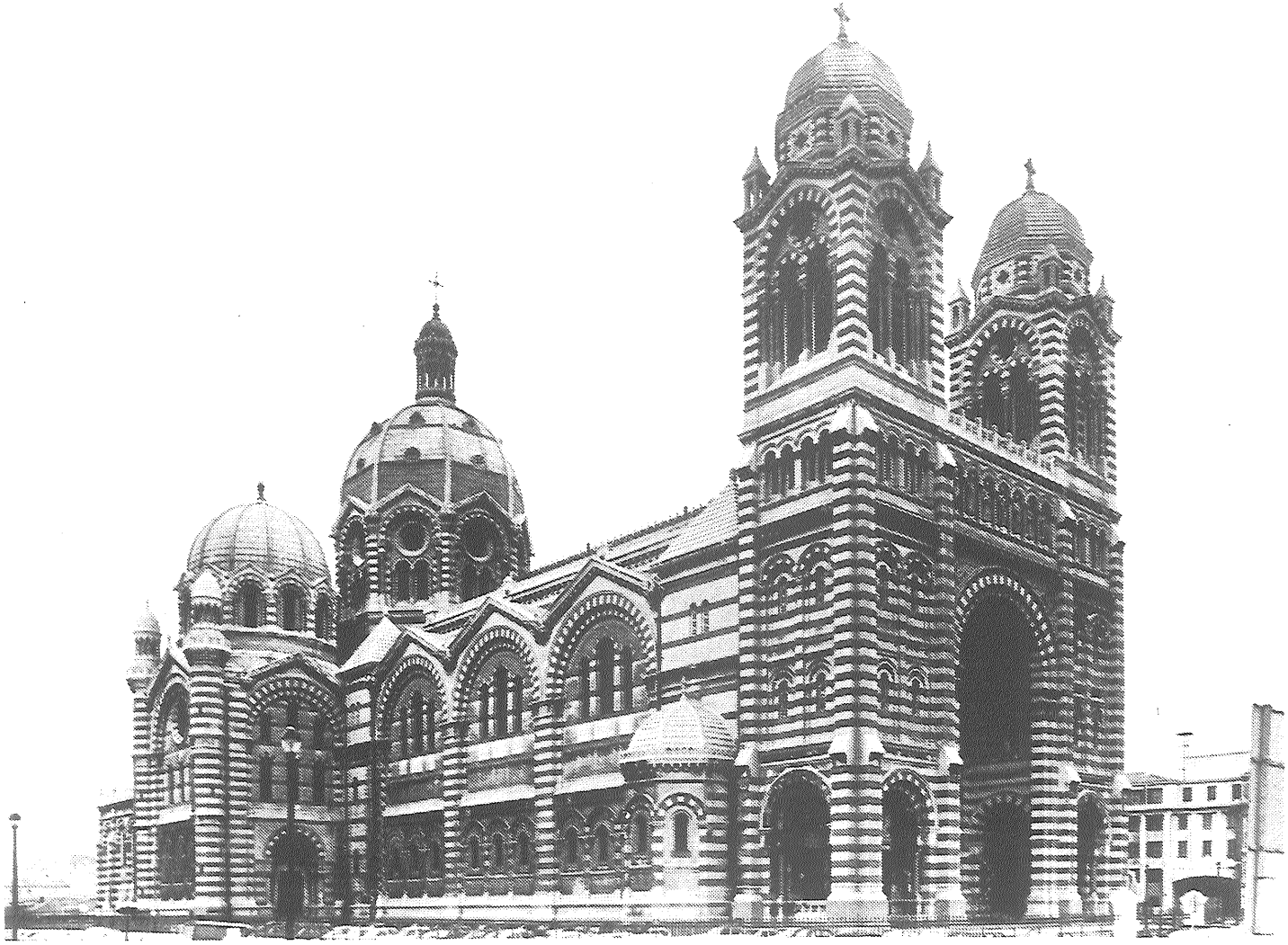
28. Notre Dame de Boulogne, Boulogne-sur-Mer.
Architect: Mgr Haffreingue.
Interior.



29. St. Vincent de Paul, Paris.
Architect: J.-L. Hittorf.



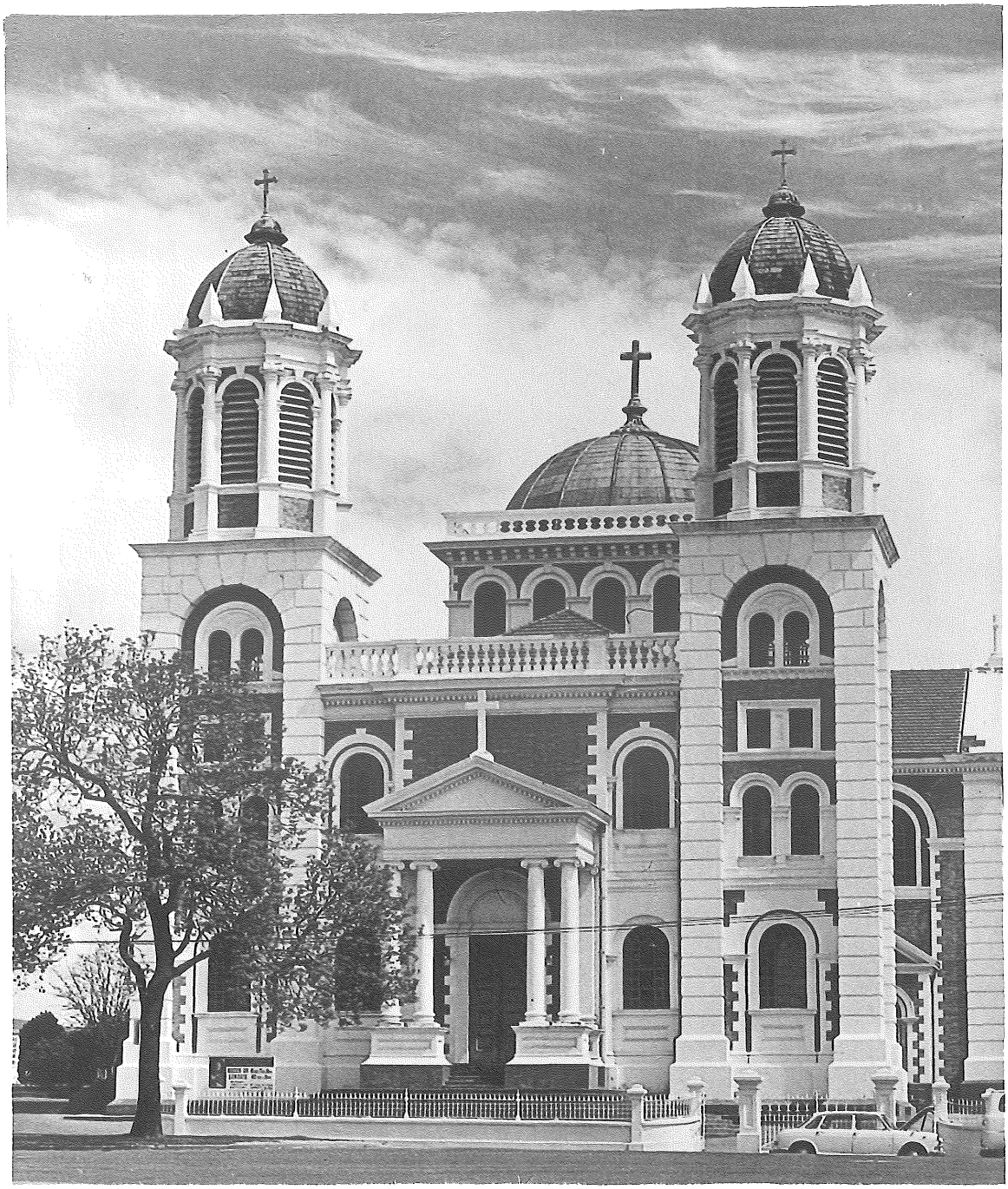
30. St. Vincent de Paul, Paris.
Architect: J.-L. Hittorf.



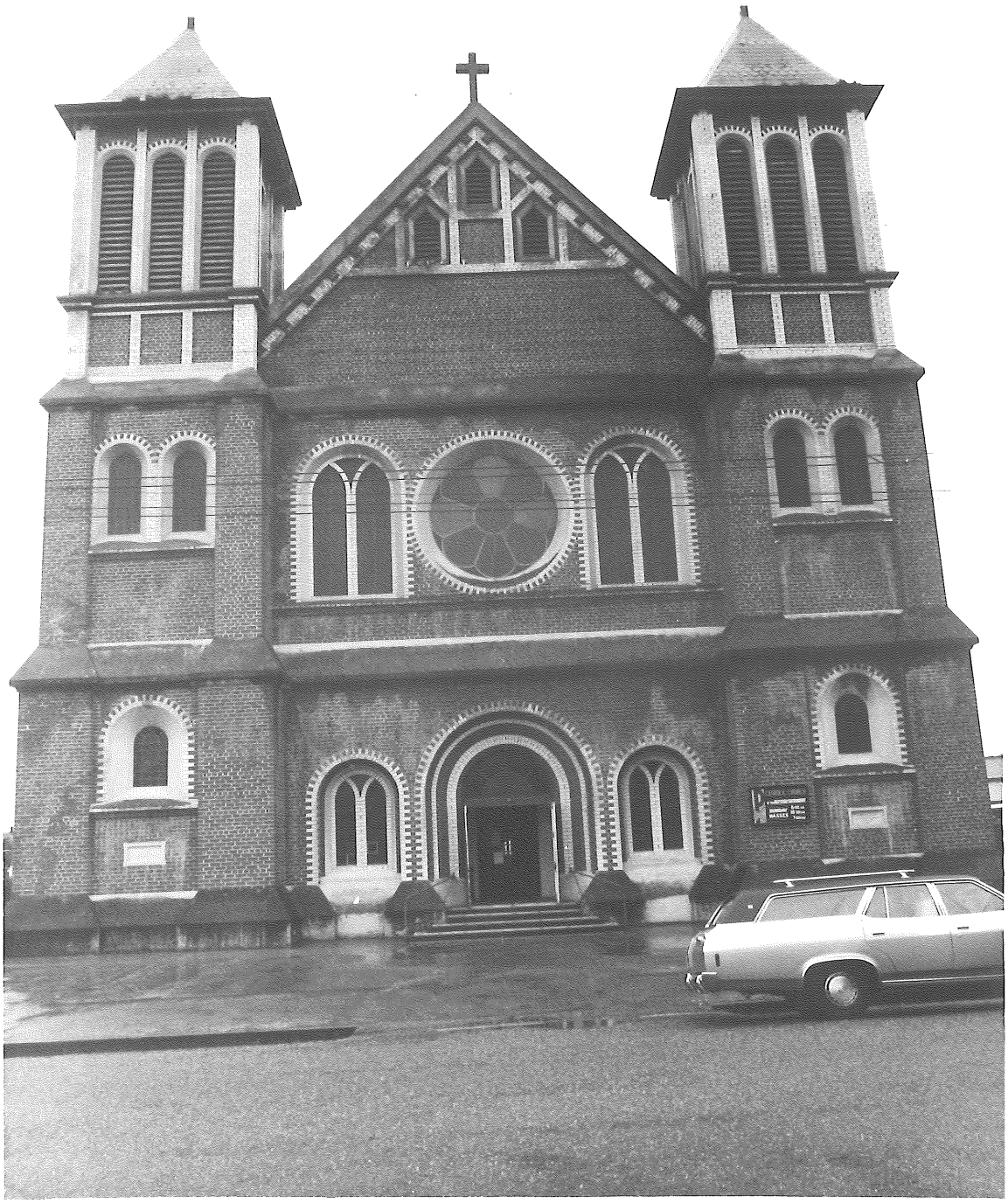
31. Marseilles Cathedral. Architect: J.L. Vaudoyer.

32. St. Patrick's Church, Waimate.

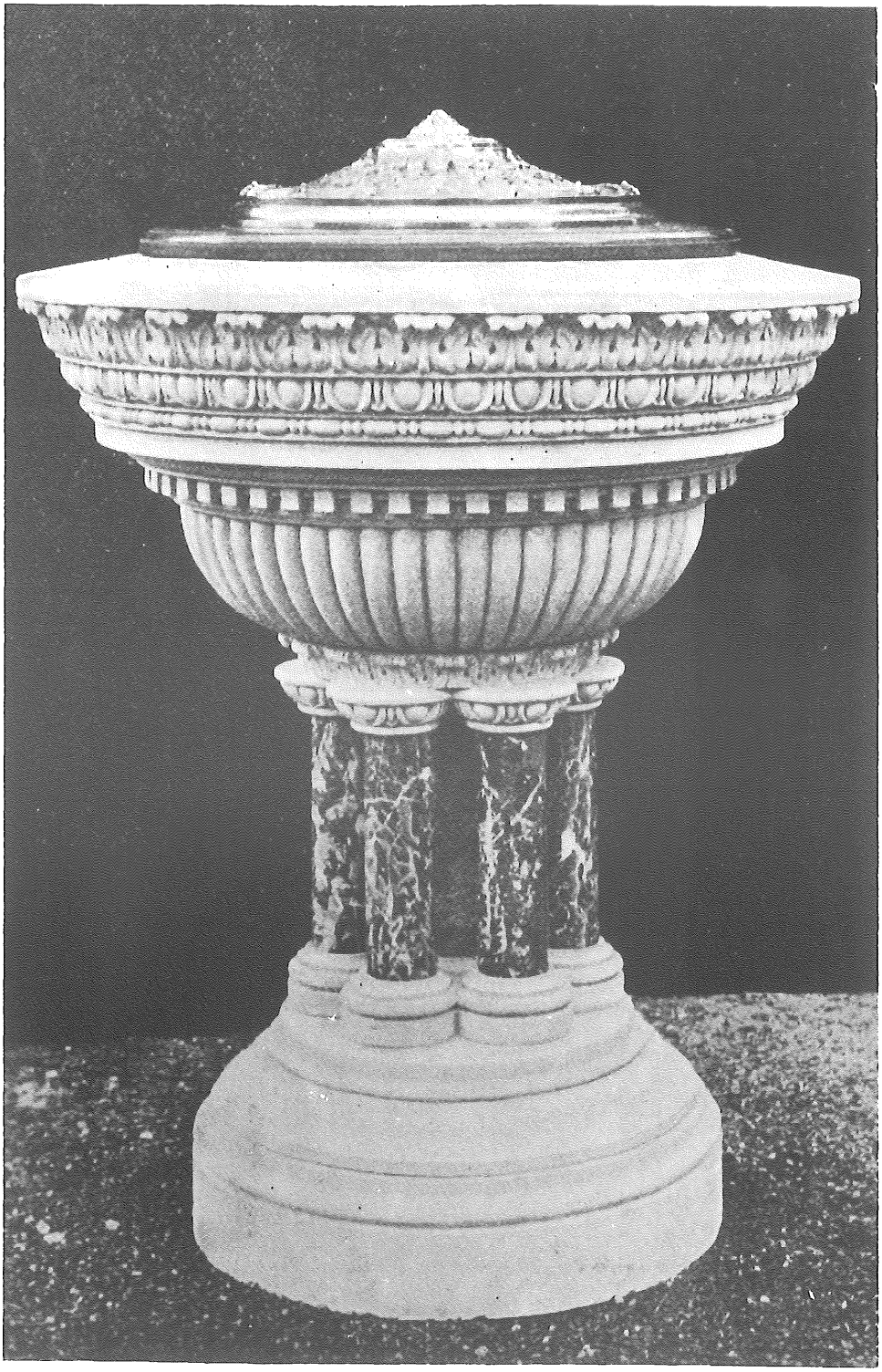
33. St. Mary's Church, Invercargill.



34. The Basilica of the Sacred Heart, Timaru.

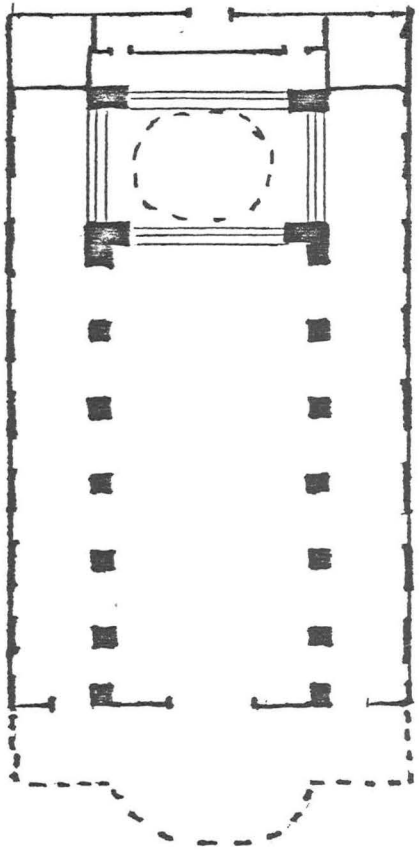


35. The Church of the Blessed Sacrament, Gore.

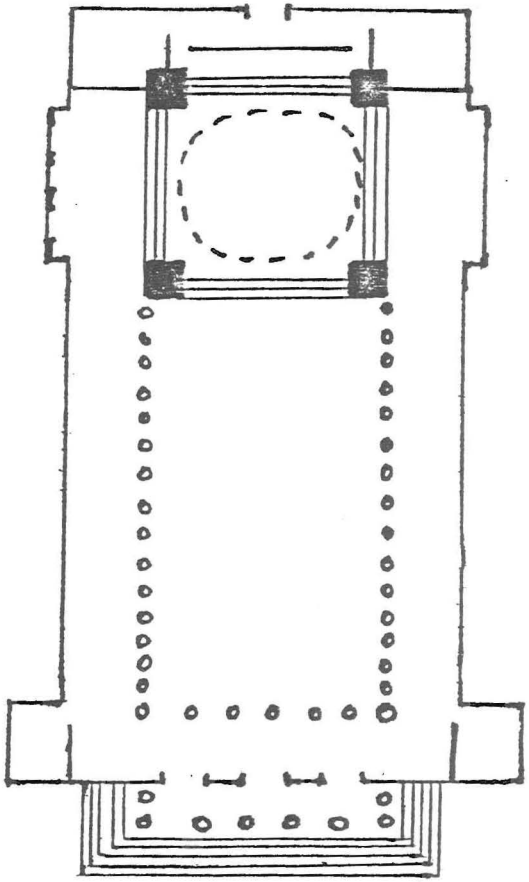


36. The Baptismal Font designed by Petre for the Cathedral of the Blessed Sacrament, Christchurch.

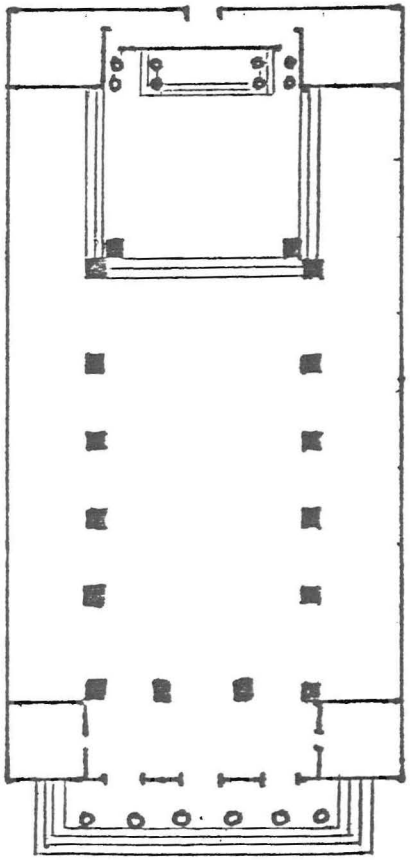
37(a). The Early Basilicas



St Patrick's, South Dunedin

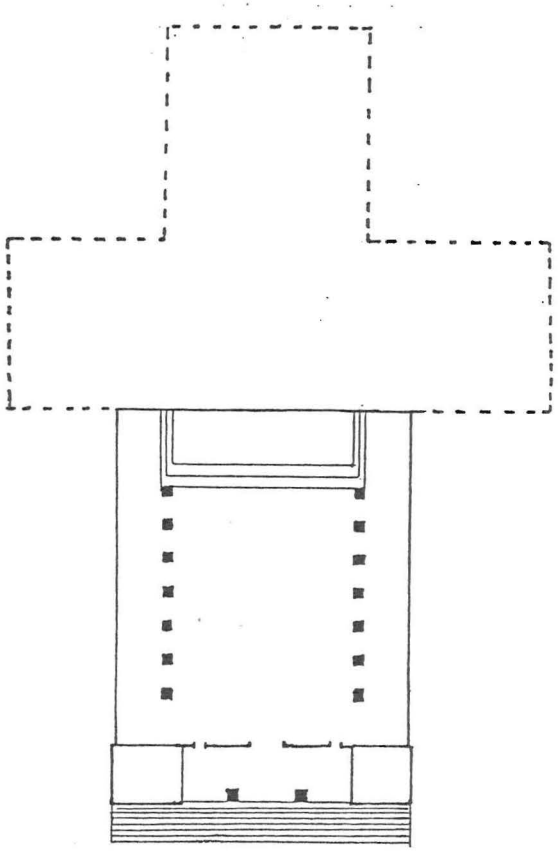


St Patrick's, Oamaru

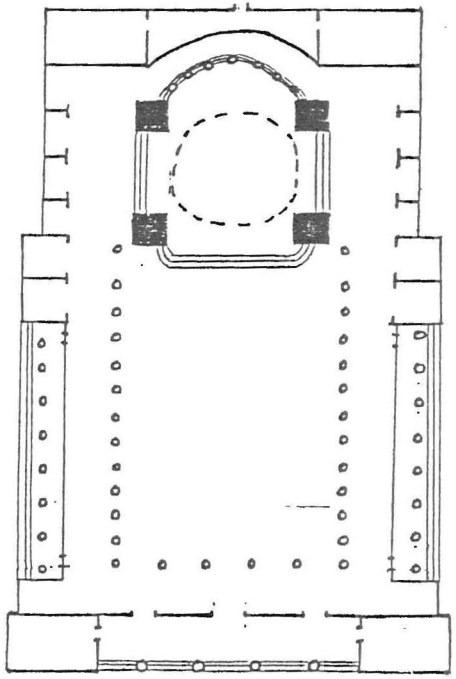


Sacred Heart, Wellington

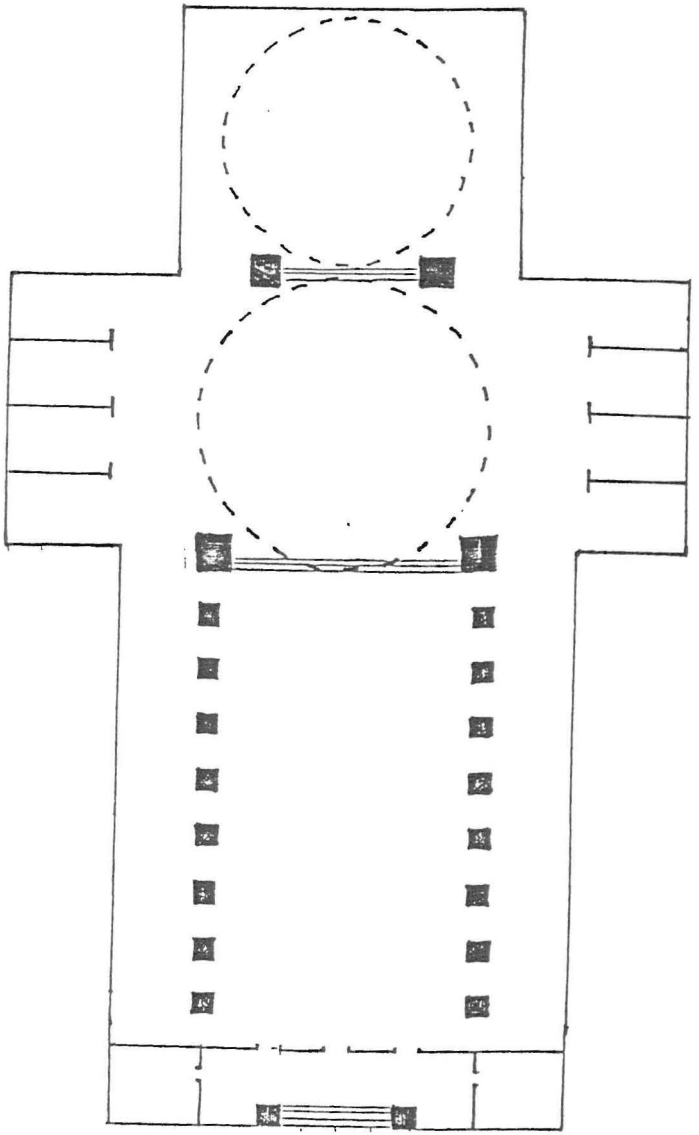
37(b). The Cathedrals



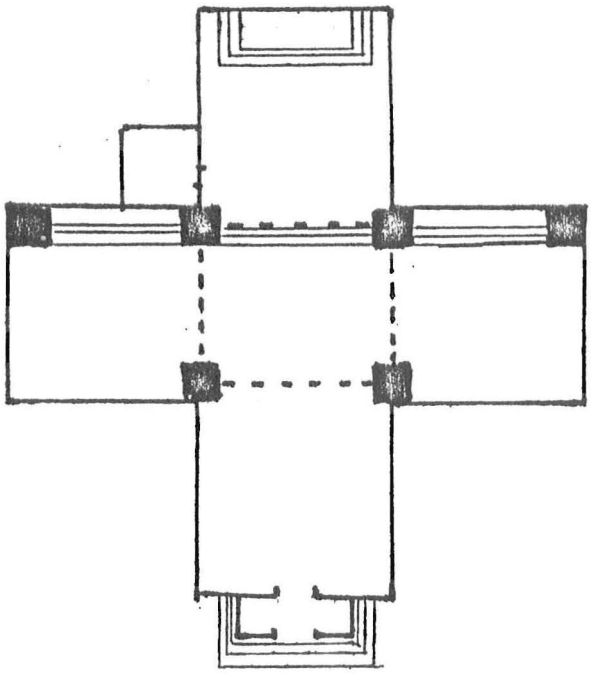
St Joseph's Cathedral, Dunedin



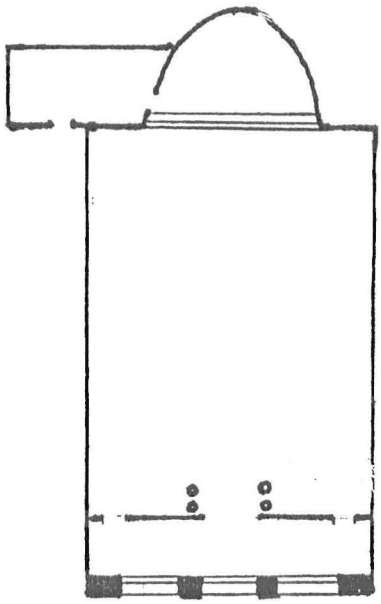
The Cathedral of The Blessed Sacrament, Christchurch



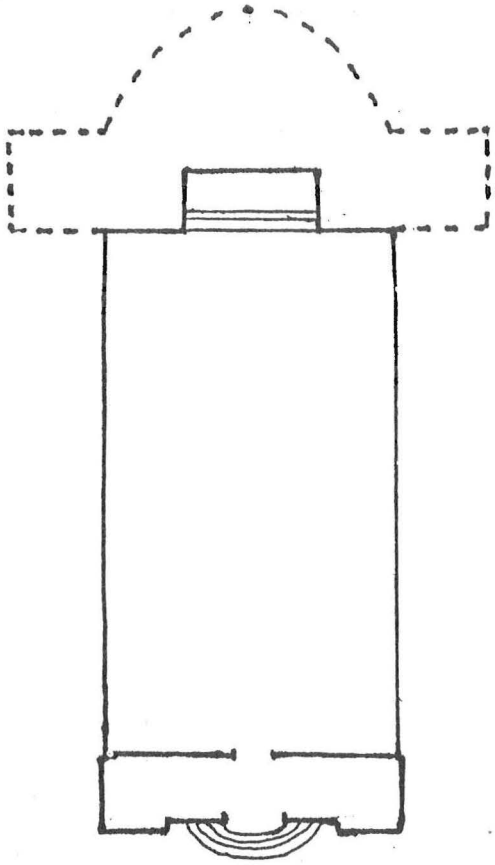
St Mary's Cathedral, Wellington



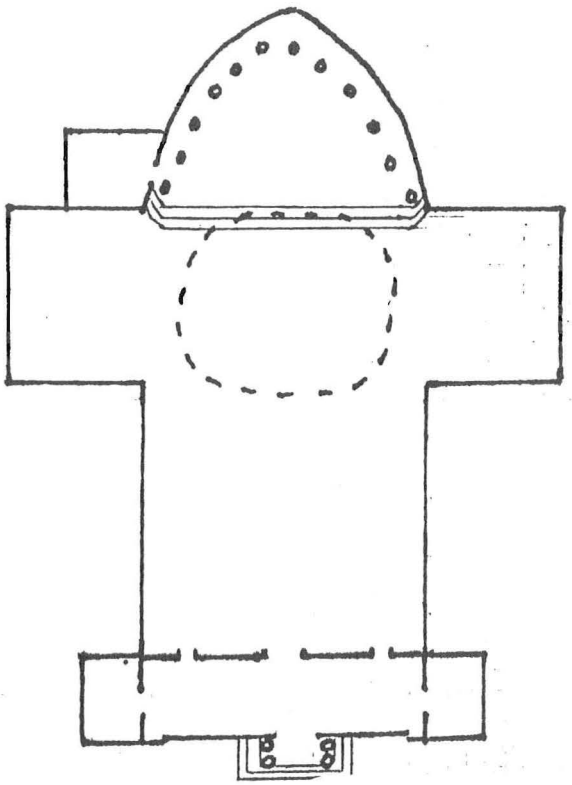
St Mary's, Invercargill



St Patrick's, Waimate



The Church of The Blessed Sacrament, Gore



The Church of the Sacred Heart, Timaru